

XLINKS' MOROCCO-UK POWER PROJECT

Environmental Statement

Volume 3, Appendix 5.1: Navigational Risk Assessment – Part 1

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Abbreviations Table

Abbreviation	Definition
AIS	Automatic Identification System
ALARP	As Low as Reasonably Practicable
ALB	All-Weather Lifeboat
AtoN	Aid to Navigation
CBRA	Cable Burial Risk Assessment
CD	Chart Datum
CEMP	Construction Environmental Management Plan
CLV	Cable Lay Vessel
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
DCO	Development Consent Order
DfT	Department for Transport
DWT	Deadweight Tonnage
EEZ	European Economic Zone
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
ES	Environmental Statement
EU	European Union
FLO	Fisheries Liaison Officer
FOC	Fibre Optic Cable
FSA	Formal Safety Assessment
GT	Gross Tonnage
HDD	Horizontal Directional Drilling
HMCG	His Majesty's Coastguard
HVDC	High Voltage Direct Current
ILB	Inshore Lifeboat
IMO	International Maritime Organization
ITZ	Inshore Traffic Zone
JRCC	Joint Rescue Coordination Centre

Abbreviation	Definition
LOA	Length Overall
MAIB	Marine Accident Investigation Branch
MARPOL	International Convention for the Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MoD	Ministry of Defence
MPCP	Marine Pollution Contingency Plan
MRCC	Maritime Rescue Coordination Centre
NAVTEX	Navigational Telex
NRA	Navigational Risk Assessment
NtM	Notice to Mariners
NTZ	No Take Zone
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
PEXA	Practice Exercise Area
PLL	Potential Loss of Life
RAM	Restricted in Ability to Manoeuvre
RIB	Rigid Inflatable Boat
RNLI	Royal National Lifeboat Institution
ROV	Remotely Operated Vehicle
RYA	Royal Yachting Association
SAR	Search and Rescue
SOLAS	International Convention for the Safety of Life at Sea
TCE	The Crown Estate
TEU	Twenty Foot Equivalent Units
TSS	Traffic Separation Scheme
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office

Abbreviation	Definition
UNCLOS	United Nations Convention on the Law of Sea
VHF	Very High Frequency
VMS	Vessel Monitoring System

Units

Abbreviation	Definition
DWT	Deadweight Tonnage
km	Kilometre(s)
kV	Kilovolt(s)
m	Metre(s)
mG	Milligauss
mm	Millimetre(s)
nm	Nautical Mile(s)
μT	Microtesla

1 Introduction

1.1 Project Summary

Anatec Ltd were commissioned by Xlinks 1 Limited to undertake a Navigational Risk Assessment (NRA) for the United Kingdom (UK) elements of Xlinks' Morocco-UK Power Project. For ease of reference, the UK elements of Xlinks' Morocco-UK Power Project are referred to in this chapter as the 'Proposed Development'. Specifically, this appendix relates to the offshore elements of the Proposed Development seaward of Mean High Water Springs (MHWS). This NRA presents information on the Proposed Development relative to existing and estimated future navigational activity and forms a technical appendix to Volume 3, Chapter 5: Shipping and Navigation of the Environmental Statement (ES).

1.2 Objectives

The NRA methodology follows the Maritime and Coastguard Agency (MCA) Marine Guidance Note (MGN) 654 (Ref. i), but takes into consideration that the offshore elements of the Proposed Development consist of subsea cables only, and there is no surface infrastructure. The NRA undertaken for the Proposed Development includes:

- Overview of NRA methodology;
- Summary of consultation undertaken with shipping and navigation stakeholders to date;
- Lessons learnt from previous subsea cable projects;
- Summary of the project description relevant to shipping and navigation;
- Baseline characterisation of the existing environment;
- Discussion of potential impacts on navigation;
- Future case marine traffic characterisation;
- Assessment of navigational risk (following the Formal Safety Assessment (FSA) process); and
- Outline of embedded mitigation measures.

Potential hazards are considered for each of the following Proposed Development phases:

- Construction
- Operation
 - normal operation
 - repairs
- Decommissioning
 - cables left in-situ
 - cables removed.

The assessment of the Proposed Development is based on a parameter-based Project Design Envelope (PDE) approach, in accordance with industry best practice. This approach allows for a project to be assessed on the basis of maximum project design parameters (i.e., the worst-case scenario) and includes conservative assumptions to form a Maximum Design Scenario

(MDS) which is considered and assessed for all risks. Further details on the design envelope are provided in Volume 1, Chapter 3: Project Description of the ES.

The shipping and navigation baseline and risk assessment has been undertaken based upon the information available and responses received at the time of preparation.

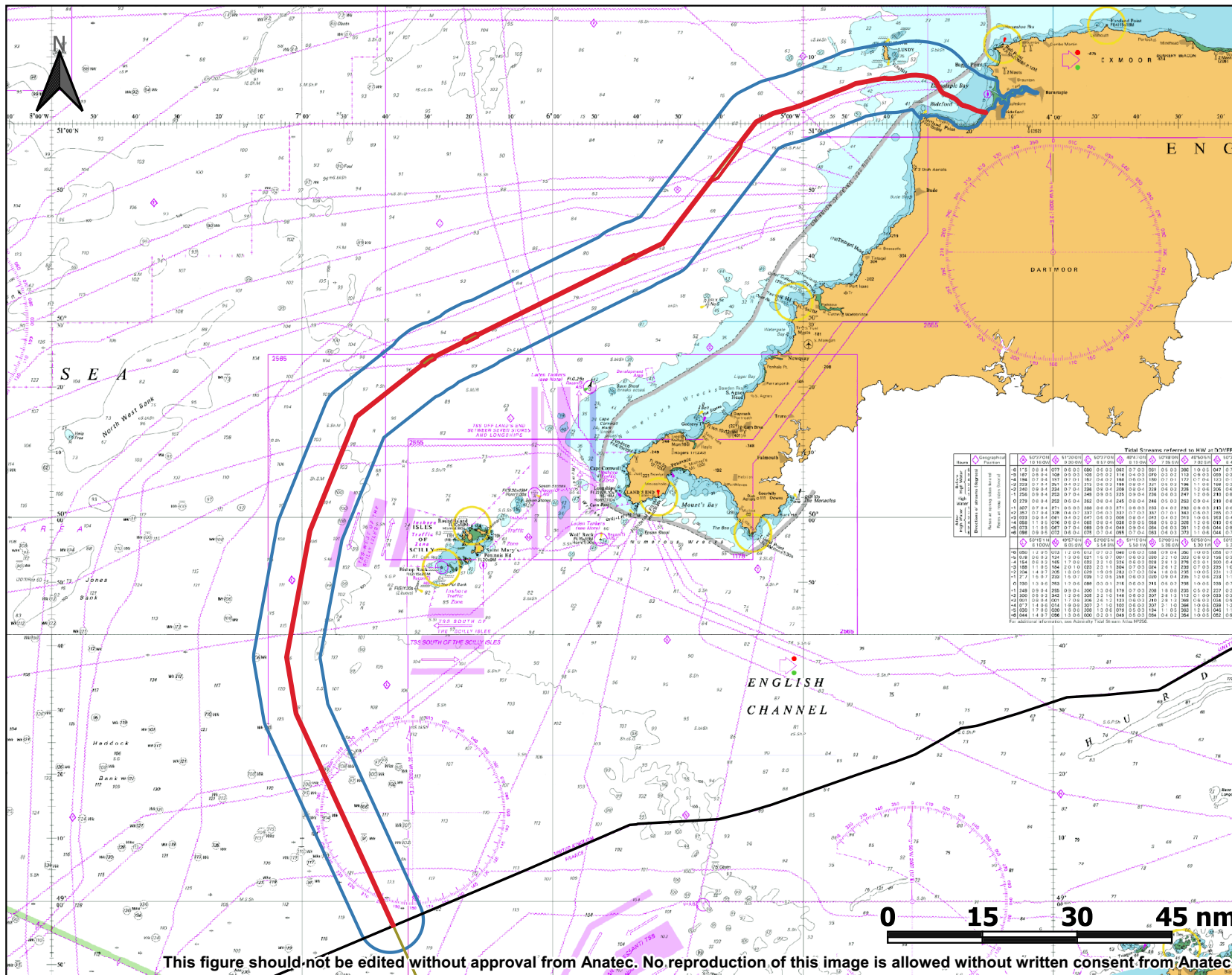
2 Project Overview

2.1 Project Location

The Offshore Cable Corridor within UK waters is approximately 370 km in length, running from the landfall area at Cornborough Range within Bideford Bay, passing 23 nm to the west of the Isles of Scilly and south across the entrance to the English Channel, to the boundary with French Waters.

The study area for the assessment of baseline data is defined as a five nautical mile (nm) buffer around the Offshore Cable Corridor within UK waters. This is standard practice and is sufficient to characterise the shipping activity and navigational features close to the Offshore Cable Corridor and to encompass any vessel traffic that may be impacted by the cable and associated operations, while also remaining project-specific in terms of the vessel activity and navigational features that it captures. Where navigational features have been identified outside of the study area, this is done for context and wider discussion purposes. The study area has been presented to stakeholders during consultation meetings.

The study area is presented in **Figure 2.1**.



- Legend**
- Xlinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
 - UK Exclusive Economic Zone (EEZ)

Total Crossings referred to MW at 70°DB

Line	Geographic Coordinates	102770N	102770E	102770S	102770W	102770E	102770S	102770W	102770E	102770S
1	102770N	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	102770E	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
3	102770S	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4	102770W	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

For additional information see Authority's Full Statement (MSF25)

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Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 2.1: Overview of the Study Area

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Coordinate System: WGS 84 / World Mercator

2.2 Details of Works

2.2.1 Project Design

A summary of project parameters is shown in **Table 2.1**. Further details on the Proposed Development are presented in Volume 1, Chapter 3: Project Description of the ES.

Table 2.1 Summary of Project Parameters

Infrastructure	Key Parameter	Maximum / Critical Design Parameter
Offshore Cable Corridor	Length of Offshore Cable Corridor from MHWS to the EEZ	370 km
	Width of Offshore Cable Corridor	500 m (extending up to 1,500 m at some locations to provision for greater micro-routing flexibility e.g. at crossings)
Offshore Cable Design	Number of HVDC marine power cables	4
	Number of FOC	2
	Number of cable bundles or bipoles (one bundle is two HVDC Cables and one FOC)	2
	Number of FOC repeaters	Up to 5 per bundle (approximately one every 70 km along each bundle in UK waters)
	Number of FOC spurs	Up to 5 per bundle (at repeater locations)
HDD Marine Works	Number of HDD boreholes	4
	Number of offshore exit pits	4
	Sediment clearance around each exit pit	Approximately 15 m x 15 m
	Exit pit overlying water depth (m LAT)	5 m (approximately 500 m offshore) or 10 m (approximately 1,800 m offshore)
	Separation between exit points for cables on the same circuit	40 m
	Separation between circuits	50 m
	Drilling fluid	Bentonite
Route Preparation	Width of grapnel hook for removal of seabed debris	Approximately 1 m
	Max penetration depth of grapnel hook	Approximately 1 m
	Swath width of 'pre-lay plough' for boulder clearance (where required)	Up to 15 m
	Swath width of 'pre-lay plough' for pre-lay trenching (where required)	Up to 15 m
Cable Installation	Number of cable trenches	2
	Cable burial depth	Target 1.5 m
	Trench width	0.5 – 1.5 m
	Cable trench spacing	50 – 180 m (up to 250 m in certain areas e.g. areas of high shipping density)

Infrastructure	Key Parameter	Maximum / Critical Design Parameter
	Footprint of mechanical cutter ROV	up to 126 m ² (10 m width and 12.6 m in length)
	Footprint of water jet ROV	up to 55.2 m ² (6 m width and 9.2 m length)
	Number of OOS cable crossings	27 (with up to 5 requiring crossing structures)
	Number of in-service cable crossings	20
	Maximum footprint of cable crossing structures	Approximately 3,500 m ² (500 m length; 7 m wide)
	Cable installation working hours	24 hours / 7 day basis
	Rock berms	Installed as last resort where burial not possible – up to approximately 1 m high
	Rock berms at crossings	Up to approximately 1.4 m high
	Expected number of vessels for cable installation	CLV – 1 (briefly 2 at changeovers); trenching vessels – up to 5; guard vessels – up to 20 across entire OCC; rock placement vessels – 2

2.2.2 Cable Construction Works

Details of construction activities are presented in Volume 1, Chapter 3: Project Description of the ES. Key construction activities include the following:

- HDD works;
- Pre-lay activities;
- Cable laying;
- Burial and protection activities; and
- Crossing the cable over existing in-service subsea cables.

2.2.2.1 HDD Works

HDD works are expected to be carried out in proximity to the cable landfall at Cornborough Range in advance of the cable lay, and may involve the use of up to two jack-up vessels. The HDD works will involve the drilling of holes seaward from land, to agreed 'punch out' / exit locations, where the drill emerges from the seabed. Punch-out locations are currently being considered between approx. 5 m water depth (approximately 500 m offshore) and 10 m water depth (approximately 1,800 m offshore). Excavated trenches may be required around the exit points, to remove sediment from the seabed (undertaken using either back-hoe dredger (long arm barge mounted excavator) or mass flow excavation (MFE) excavating an area of approximately 15 m x 15 m around the exit points. Following the drilling of the boreholes, ducting will be installed in each borehole. This may be carried out using either a pushed or

pulled installation. Both methods would require vessels to carry out the operation, however a pulled installation would require additional vessels either to tow the duct into position or to pull the duct through the borehole.

2.2.2.2 Pre-lay Activities

Marine investigation surveys have already been carried out on the Offshore Cable Corridor, with the potential for further surveys to be required prior to the cable lay. Route preparation works will also be required in advance of the cable lay, involving the clearance of debris, sandwaves and boulders from the cable route.

To remove debris including lost or discarded fishing gear, a pre-lay grapnel run would be carried out, involving a vessel towing a grapnel hook of 1 m width and 1 m penetration depth along the path of both cable bundles. There are also 27 crossings of out of service cables along the Offshore Cable Corridor. Subject to discussions with the cable owners, these would be cut, with a section recovered for onshore disposal. As a worst case, it is assumed for that 5 of the OOS cables will require crossings. Should any OOS cable crossings be required, this will be confirmed to the MMO (and Natural England) post consent, prior to construction.

The Outline CBRA has determined that there are no sandwaves or large sand ripples in UK waters that would require pre-sweeping / large-scale flattening. The scale of sandwaves and ripples is such that cable burial below mobile sediment layers is expected to be achieved during normal installation procedures i.e. using mass flow excavation (MFE) and/or 'surface plough'/leveller.

A further pre-lay surface plough may also be required to remove boulders from the cable route to increase the probability of successful burial. It is anticipated that up to 200 km of the route will require boulder removal. Depending on the timings, and the local seabed character this final pre-lay plough can also be used to perform trench cutting to enable cable burial. These two steps may be carried out independently, or simultaneously.

2.2.2.3 Cable Lay

Cable lay will take place from Cable Lay Vessels (CLVs). Each CLV would carry three turntables, to install the three cables (including FOC) within a single cable bundle simultaneously, with cables bundled together and fed overboard at the stern of the vessels. Two cable lay vessels are expected to be used (in sequence) for each cable bundle. It is anticipated that burial and protection works will take place concurrently, with burial works commencing shortly after cable lay. Guard vessels will be deployed during periods when the cable has been laid but protection or burial works are yet to be carried out.

2.2.2.4 Burial and Protection Works

Mechanical trenching carried out by a remotely operated vehicle (ROV) is anticipated to be the main burial method in UK waters. Trench jetting is unsuitable for the majority of the Offshore Cable Corridor but may be used as a remedial measure following mechanical trenching. Trenching is typically carried out at a rate of 150 m per hour.

It is anticipated that burial may not be possible, or possible to a full 1.5 m target depth, along 150 km of the Offshore Cable Corridor. Where burial is not possible, additional rock protection will be installed, with height up to 1 m above the seabed, and width up to 7 m (at crossings). Any rock protection installed would be designed in line with industry standards, including designing the protection in such manner to minimise snagging risk to fishing gear.

External protection will also be required at crossings of the 20 planned and in-service cables identified along the Offshore Cable Corridor, as well as up to 5 OOS cable crossings as a worst-case. Cable crossings would involve rock protection or concrete mattresses above the existing cable to create separation between the two cables, with further rock or concrete protection installed to protect the Proposed Development. The maximum height of external protection would be approximately 1.4 m, with crossings being up to 500 m in length and c.7 m in width (footprint dimensions dependent on angle of crossing).

2.2.2.5 Construction Programme

Pre-lay works such as route clearance and boulder removal may take place in 2027 ahead of cable lay and protection works.

Cable lay works for Bipole 1 (first cable bundle) are scheduled to begin in 2027 and it is anticipated that these works would be completed in three sections each taking approximately one month. It is currently envisaged that one section will be laid in 2027, and two sections laid in 2028.

Dates are indicative at this time and may be influenced by e.g. weather limitations of the CLV.

For Bipole 2 (second cable bundle), it is anticipated that all three sections will be laid in 2030. The landfall HDD works are provisionally scheduled to be undertaken in advance of cable laying.

Burial and protection activities would progress broadly in parallel with the expectation that cable lay and the start of burial would be just a few days apart (noting that burial and protection activities would take longer to complete than the cable lay).

Guard vessels would be provisioned for any periods after the cable has been laid, but has not yet been buried or protected, to minimise the risk of interactions with other marine traffic.

2.2.2.6 Vessels Required for Cable Installation

Table 2.2 presents the indicative number of vessels anticipated to be required for the installation of the Proposed Development. In addition to the vessels shown, a number of tugs, workboats and survey vessels may be required to support the cable installation (and pre-lay works).

Table 2.2 Construction Vessel Numbers

Vessel Type	Number Required
CLV	One (Two at changeovers)
Trenching Vessels	Up to five
Guard Vessels	Up to 20
Rock Placement Vessels	Two
Jack-up/Multi-cat Vessels (for HDD works)	Maximum of two

2.2.3 Operational Phase

During the operational phase, post installation cable inspection surveys will be carried out to ensure the cable protection measures deployed remain in place. Surveys would be undertaken using a single survey vessel, equipped with an ROV and geophysical survey equipment. It is anticipated that surveys would be carried out under the following survey schedule:

- Routine surveys of the offshore submarine cables shall commence two years from the commissioning of the first Bipole.
- If no issues are found, the next follow up survey would be in three years, with the interval increasing by one year each time, until the period between surveys reaches five years.
- If no issues are found, routine surveying through the remainder of the operational phase is likely to be conducted on a five-year basis.
- If an issue is found, it will be flagged for further investigation, and mobilisation of repair as appropriate.

Unplanned maintenance or repair works may be required during the operational phase, should the cable become exposed over time, or if damage to the cable is identified. Repaired sections of the cables may have a greater footprint than the original cable, however these would be expected to fall within the Offshore Cable Corridor.

2.2.4 Decommissioning Phase

Decommissioning of the installed cable will take place after the operational phase is complete (under separate consent). The exact methodology of these works will be determined prior to decommissioning in a timely manner, with an Offshore Decommissioning Plan developed in due course.

Current best practice is to de-energise the cable, and secure it to be left in-situ on the seabed. Should full or partial removal of the cable be necessary, it is anticipated that methods for this would be broadly similar to those used in the construction phase. The impact assessment presented in **section 11** considers both options for decommissioning.

2.3 Maximum Design Scenario

Based on the information provided, the maximum design scenario relevant to shipping and navigation considered in the impact assessment (**section 11**) is presented in Volume 3, Chapter 5: Shipping and Navigation of the ES. This ensures a conservative assessment of a worst case scenario.

3 Guidance and Legislation

3.1 Legislation

The following legislation has been considered in this assessment:

- United Nations Convention on the Law of the Sea (UNCLOS) (Ref. ii);
- International Regulations for Preventing Collisions at Sea (COLREGS) (Ref. iii);
- Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 (as amended in 2011) (Ref. iv); and
- Chapter V, Safety of Navigation, of the Annex to the International Convention for the Safety of Life at Sea (SOLAS) (Ref. v).

3.2 Primary Guidance

Impacts on shipping and navigation are assessed using an FSA compliant with International Maritime Organization (IMO) guidelines. The primary guidance document used during the assessment is therefore given below:

- *Revised Guidelines for FSA for use in the IMO Rule-Making Process* (Ref vi).

3.3 Secondary Guidance

The secondary guidance documents used during the assessment are listed below:

- *Marine Guidance Note (MGN) 654 (Merchant and Fishing) Safety of Navigation: Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response* and its annexes¹ (Ref vii); and
- *MGN 661 (Merchant and Fishing) Navigation – Safe and Responsible Anchoring and Fishing Practices* (Ref. viii)

¹ Although this guidance is focused on offshore renewables, it highlights issues to be taken into consideration when assessing the effects of offshore developments on navigational safety and includes guidance on cable protection and burial within UK waters.

4 Navigational Risk Assessment Methodology

4.1 FSA Methodology

A shipping and navigation user can only be exposed to a risk caused by a hazard if there is a pathway through which a risk can be transmitted between the source activity and the user. In cases where a user is exposed to a risk, the overall significance of risk to the user is determined. This process incorporates a degree of subjectivity. The assessments presented for shipping and navigation users have considered the following criteria:

- Baseline data and assessment;
- Expert opinion;
- Level of stakeholder concern; and
- Number of transits of specific vessels and/or vessel types.

4.2 FSA Process

The IMO FSA process approved under the IMO circular MSC-MEPC.2/Circ.12/Rev.2 (Ref. vi) has been applied within this assessment. This is a structured and systematic methodology based on risk analysis and cost benefit analysis (if applicable) to reduce impacts to As Low as Reasonably Practicable (ALARP). There are five basic steps within this process (this assessment focuses on Steps 1-3):

- Step 1: Identification of hazards (a list of all relevant accident scenarios with potential causes and outcomes);
- Step 2: Assessment of risks (evaluation of risk factors);
- Step 3: Risk control options (devising regulatory measures to control and reduce the identified risks);
- Step 4: Cost benefit analysis (determining cost effectiveness of risk control measures); and
- Step 5: Recommendations for decision-making (information about the hazards, their associated risks and the cost effectiveness of alternative risk control measures).

A flow diagram of the FSA methodology applied is presented in **Figure 4.1**.



Figure 4.1 Formal Safety Assessment Process

The FSA assigns each impact a “severity of consequence” and “frequency of occurrence” to evaluate the significance during the Construction, Operational and Decommissioning phases of the Proposed Development.

Table 4.1 and **Table 4.2** identify how the severity of consequence and the frequency of occurrence has been defined, respectively.

Table 4.1 Severity of Consequence Ranking Definitions

Rank	Description	Definition			
		People	Property	Environment	Business
1	Negligible	No perceptible risk	No perceptible risk	No perceptible risk	No perceptible risk
2	Minor	Slight injury(ies)	Minor damage to property, i.e., superficial damage	Tier 1 ² local assistance required	Minor reputational risks – limited to users
3	Moderate	Multiple minor or single serious injury	Damage not critical to operations	Tier 2 ³ limited external assistance required	Local reputational risks

² Tier 1 – Local (within the capability of one local authority, offshore installation operator or harbour authority)

³ Tier 2 – Regional (beyond the capability of one local authority or requires additional contracted response from offshore operator or from ports or harbours)

Rank	Description	Definition			
		People	Property	Environment	Business
4	Serious	Multiple serious injuries or single fatality	Damage resulting in critical risk to operations	Tier 2 regional assistance required	National reputational risks
5	Major	More than one fatality	Total loss of property	Tier 3 ⁴ national assistance required	International reputational risks

Table 4.2 Frequency of Occurrence Ranking Definitions

Rank	Description	Definition
1	Negligible	Less than 1 occurrence per 10,000 years
2	Extremely unlikely	1 per 100 to 10,000 years
3	Remote	1 per 10 to 100 years
4	Reasonably probable	1 per 1 to 10 years
5	Frequent	Yearly

The severity of consequence and frequency of occurrence are then used to define the tolerability of risk via a matrix approach as shown in **Table 4.3**. The tolerability of risk is defined as Broadly Acceptable (low risk), Tolerable (intermediate risk) or Unacceptable (high risk).

⁴ Tier 3 – National (requires national resources coordinated by the MCA for a shipping incident and the operator for an offshore installation incident)

Table 4.3 Tolerability Matrix and Risk Rankings

Severity of Consequence	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
		Frequency of occurrence				

	Unacceptable (high risk)
	Tolerable (intermediate risk)
	Broadly Acceptable (low risk)

Once identified, the tolerability of risk will be assessed to ensure it is ALARP. Further risk control measures may be required to further mitigate a hazard in accordance with the ALARP principles. Unacceptable risks are not considered to be ALARP.

5 Data Sources

The data sources used to inform this assessment are listed below, and described in detail in the following sections:

- Automatic Identification System (AIS) data;
- Marine Management Organisation (MMO) satellite fishing data;
- Royal Yachting Association (RYA) Coastal Atlas of Recreational Boating;
- Marine Accident Investigation Branch (MAIB) incident data;
- Royal National Lifeboat Institution (RNLI) incident data;
- UK Department for Transport (DfT) Search and Rescue (SAR) Helicopter Taskings;
- United Kingdom Hydrographic Office (UKHO) Admiralty Charts;
- Admiralty Sailing Directions, West Coasts of England and Wales NP37;
- Marine aggregate dredging areas (The Crown Estate (TCE)); and
- Offshore wind farm (OWF) lease boundaries and export cable corridors (TCE).

Data sources used have been presented and agreed during consultation with relevant stakeholders.

5.1 AIS Data

The baseline shipping analysis is based on an up-to-date data set consisting of 12-months of AIS data, covering the period from September 2022 to August 2023.

AIS equipment is required to be fitted on all vessels of 300 Gross Tonnage (GT) and upwards engaged on international voyages, cargo vessels of 500 GT and upwards not engaged on international voyages, and passenger vessels irrespective of size, built on or after 1st July 2002. Under the Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 (Ref. iv) (as amended in 2011), fishing vessels of 15 m or more in length overall (LOA), UK registered or operating in UK waters, must be fitted with an approved (Class A) AIS (regulation 8A). In addition, all European Union (EU) registered fishing vessels of length 15 m and above are required to carry AIS equipment by EU Directive. Smaller fishing vessels (below 15 m) as well as recreational craft are not required to carry AIS, but a proportion does so voluntarily. It is also noted that military vessels are not obligated to broadcast on AIS at all times. Therefore, these vessels (e.g., fishing, recreational and military vessels) will be under-reported within the AIS data.

The reporting interval between position reports for a given vessel typically ranges between a few seconds and up to three minutes, depending on its speed and navigational status (less frequent for anchored and moored vessels).

5.2 Satellite Fishing Data

The MMO provides Vessel Monitoring Service (VMS) satellite data, covering all fishing vessels of 15 m or greater, in a density-based grid for the UK. Fishing data from 2020, which was latest available dataset, was reviewed.

5.3 RYA Coastal Atlas of Recreational Boating

To supplement AIS data on recreational activity in proximity to the Offshore Cable Corridor, and to identify the locations of recreational facilities, the RYA Coastal Atlas of Recreational Boating (Ref. ix) has been used to inform the description of the baseline environment.

5.4 Incident Data

The baseline assessment includes an analysis of incident data from the RNLI and MAIB.

The RNLI logs details of incidents it responds to, including the cause of the incident. Data was available for 2014 to 2023.

All UK commercial vessels are required to report accidents to the MAIB. Non-UK vessels do not have to report accidents unless they are in a UK port or are inside the UK 12 nm territorial waters and carrying passengers to a UK port. There are no requirements for non-commercial recreational craft to report accidents to the MAIB. The MAIB will record details of significant accidents of which they are notified by bodies such as His Majesty's Coastguard (HMCG), or by monitoring news and other information sources for relevant accidents. When reporting the location of incidents, the MAIB aim for 97% accuracy. Data was available from 2013 to 2022.

The DfT UK civilian Search and Rescue (SAR) helicopter taskings between 2015 and 2024 were used to review maritime incidents in proximity to the cable corridor.

5.5 UK Admiralty Charts

Admiralty charts are nautical charts issued by the UKHO. Charts have been used to identify the key navigational features in proximity to the Proposed Development. The main charts used in this study were chart numbers 1121, 1123, 1164, 1178, 1179, 2565, 2649 and 2675.

5.6 Admiralty Sailing Directions

Admiralty Sailing Directions, also known as Pilot Books, are used by mariners to identify established routes when steaming on passage, as well as coastline features, anchorages, ports, etc. The "West Coasts of England and Wales Pilot" (Ref. x) has been used in this assessment to identify the significant navigational features in the vicinity of the cable corridor.

5.7 Aggregate Dredging Areas

Marine aggregate dredging areas were obtained from TCE. TCE are responsible for licensing capital and maintenance dredging projects which enable navigational channels to be created and maintained on the UK seabed. The latest available data is from January 2023.

5.8 Offshore Wind Farms

The OWF boundaries, export cable corridors and potential areas of extension which are in proximity to the Proposed Development were obtained from TCE. The latest available layer is from January 2023.

5.9 Data Limitations

5.9.1 AIS Data

It is assumed that all vessels under an obligation to broadcast information via AIS have done so. It has also been assumed that the details broadcast via AIS (such as vessel type and dimensions) are accurate, unless clear evidence to the contrary was identified. There may be occasional range limitations in tracking certain vessels, especially smaller (Class B AIS) vessels in winter. However, it is not considered that the comprehensiveness of the AIS data compromises confidence in the assessment.

Since the vessel traffic data for the study area consists of AIS only, the data has limitations associated with non-AIS vessels, such as recreational vessels and fishing vessels of less than 15 m in length. Therefore, additional data sources such as VMS data have been considered when assessing the baseline environment. Consultation has also been undertaken to provide additional information on non-AIS vessel activity, particularly close to the landfall.

Military vessels are not required to broadcast on AIS and may therefore be under-represented. The MOD have been consulted to gather additional information on military activities in proximity to the Offshore Cable Corridor, as presented in **section 8**.

5.9.2 Historical Incident Data

Although all UK commercial vessels are required to report incidents to the MAIB, this is not mandatory for non-UK vessels unless they are in a UK port, within territorial waters or carrying passengers to a UK port. There are also no requirements for non-commercial recreational craft to report incidents to the MAIB. Nevertheless, the MAIB incident database is considered to be a suitable source for the characterisation of historical incidents and adequate for the assessment.

The RNLI incident data cannot be considered comprehensive of all incidents in the Study Area. Although hoax and false alarms are excluded, any incident to which a RNLI resource was not mobilised has not been accounted for in this dataset. Nevertheless, the RNLI incident data is still considered to be an appropriate resource for the characterisation of historical incidents and adequate for the assessment.

5.9.3 Admiralty Charts

The Admiralty Charts published by the UKHO are updated periodically, and therefore the information shown may not reflect the real-time features within the region with total accuracy. Taking into account consultation undertaken, the characterisation of navigational features is considered to be suitably comprehensive and adequate for the assessment. For aids to navigation, only those charted and considered key to establishing the shipping and navigation baseline are shown.

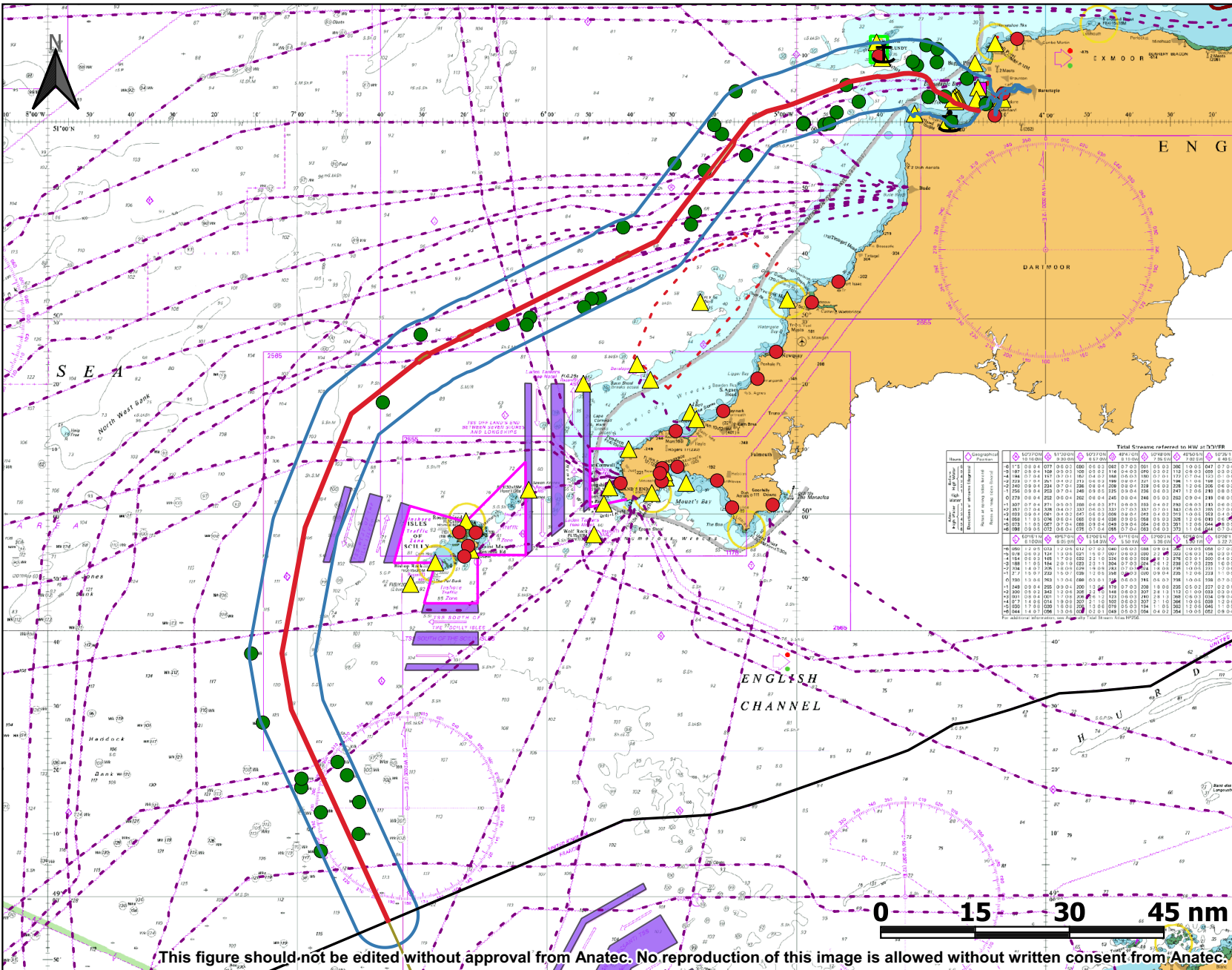
6 Navigational Features

6.1 Introduction

The following sections present the navigational features in proximity to the Proposed Development. The following elements are considered:

- Ports, harbours and related facilities;
- IMO routeing measures;
- Charted wrecks;
- Aggregate dredging areas;
- OWFs;
- Military practice areas; and
- Subsea cables.


An overview of the navigational features is presented in **Figure 6.1**.



- Legend**
- Xlinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
 - UK Exclusive Economic Zone (EEZ)
- Navigational Features**
- ▲ Aids to Navigation
 - ⚓ Anchorage
 - Charted Wrecks
 - Pilot Boarding Location
 - Ports and Harbours
 - Firing Practice Areas
 - Inshore Traffic Zones
 - No Take Zone
 - Subsea Cables
 - Aggregate Dredging Sites
 - Marine Conservation Area
 - TSS Separation Zones

Total Crossings referred to MW at 200m											
Depth	Geographic	02770N	01720W	01720W	04100W	05050W	05050W	05050W	05050W	05050W	05050W
0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12	12	12
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14	14	14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18	18	18
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22	22	22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26	26	26
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38	38	38	38	38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41	41	41
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48	48	48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50	50	50

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Project:
Xlinks' Morocco-UK Power Project

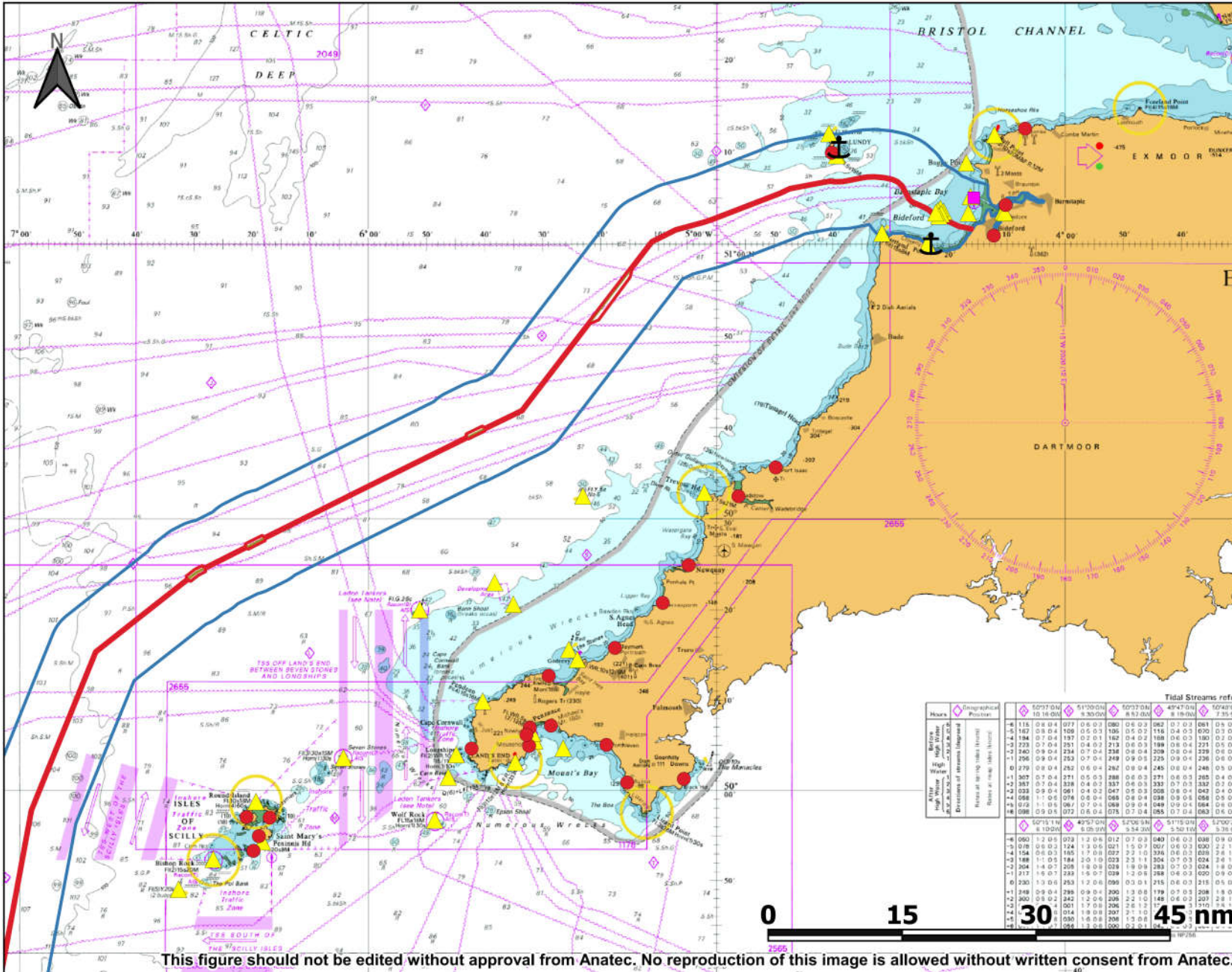
Figure Title:
Figure 6.1: Navigational Features

Date: 13/11/2024	Drawn: LD	Checked: LC
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Coordinate System: WGS 84 / World Mercator

6.2 Ports, Harbours and Related Facilities

Figure 6.2 presents the locations of ports, harbours and related facilities in proximity to the Proposed Development.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area

Navigational Features

- ▲ Aids to Navigation
- ⚓ Anchorage
- Pilot Boarding Location
- Ports and Harbours



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.2: Ports, Harbours and Related Facilities

Date: 13/11/2024	Drawn: LD	Checked: LC
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Coordinate System: WGS 84 / World Mercator

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Numerous ports and harbours are located along the south west coast of England. The nearest to the Offshore Cable Corridor are Bideford, Appledore and Yelland, accessed through the Taw Torridge Estuary. Access to the estuary is via the Bideford Bar. A chart note states that the sands are subject to frequent changes, and AtoNs may also be adjusted accordingly. The note also adds that entry should only be attempted two hours either side of high water. At the Port of Bideford, commercial vessels up to 96 m in length are accepted, whereas Appledore is mostly frequented by fishing and recreational vessels. Yelland is a largely disused quay formerly used by a power station which operated alongside the river; however, is still occasionally used for deliveries of sand.

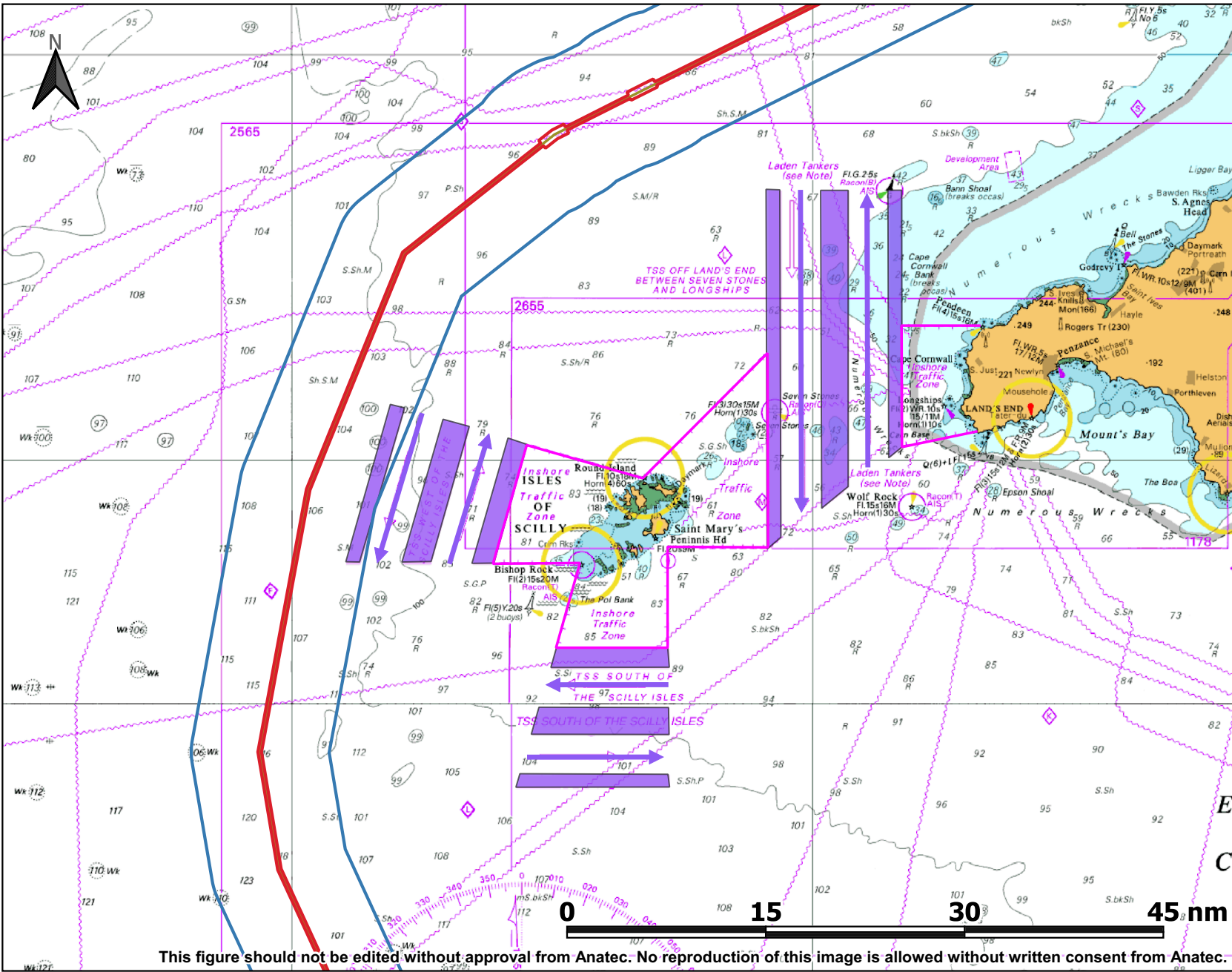
Other harbours along the coast include Padstow, Port Isaac, Newquay, Perranporth, Portreath, St Ives, Penzance and Porth Mellin. In addition to the harbours on the English mainland, there are also a number of harbours on the Isles of Scilly. Due to the international nature of the shipping in the area, ports of relevance to the shipping traffic may be further afield, such as Southampton, Rotterdam and a number of ports on the north coast of France.

There are two charted anchorages in the vicinity of the Offshore Cable Corridor; Lundy Road east of Lundy Island, 3.6 nm to the north of the Offshore Cable Corridor and Clovelly Road 4.8 nm southwest of the cable landfall.

The closest pilot boarding station is 2.6 nm north of the landfall, near Bideford Fairway Light Buoy. Pilotage provides assistance to vessels crossing the Bideford Bar due to the danger of shifting sands. It is compulsory for all vessels over 350 GT transiting to Appledore, Bideford and Yelland. Entry is only advised at certain times of day. Prior to pilotage, anchoring is advisable in Bideford Bay as well as Lundy Road.

6.3 IMO Routeing Measures

Figure 6.3 presents the locations of IMO routeing measures in proximity to the Proposed Development.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area

Navigational Features

- Inshore Traffic Zones
- TSS Separation Zones



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.3: IMO Routing Measures

Date: 13/11/2024	Drawn: LD	Checked: LC
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Coordinate System: WGS 84 / World Mercator

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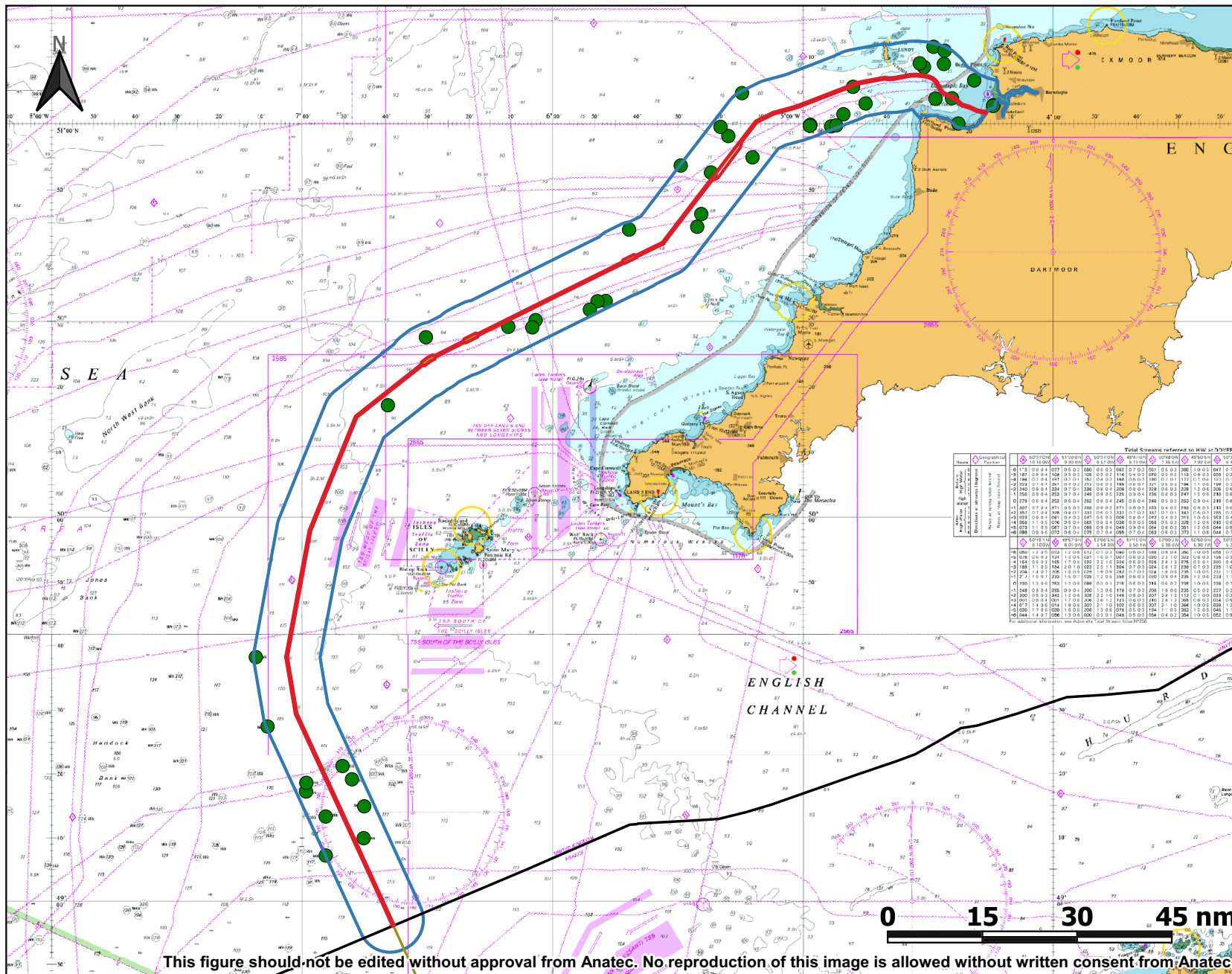
The main routing measures in proximity to the Proposed Development are the Traffic Separation Schemes (TSSs) in place around the Isles of Scilly.

There are three sets of TSS lanes around the Isles of Scilly, located to the west, to the south and to the east between the Isles of Scilly and Land's End on the UK mainland. A chart note warns that laden tankers over 10,000 GT should keep a safe clearance of 3 nm to Wolf Rock, located at the south of the TSS off Land's End, and that such vessels should not use the TSS in restricted visibility or other adverse weather conditions. The closest TSS to the Proposed Development is located approximately 5 nm to the east of the Offshore Cable Corridor, to the west of the Isles of Scilly.

There are also Inshore Traffic Zones (ITZs) landward of the TSSs, around the Isles of Scilly and off the coast of Cornwall. Vessels may only enter these zones if they are recreational craft, vessels less than 20 m in length, or engaged in fishing. Vessels can also enter the ITZ to avoid immediate danger.

6.4 Charted Wrecks

Figure 6.4 presents the locations of charted wrecks in proximity to the Proposed Development.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area
- UK Exclusive Economic Zone (EEZ)

Navigational Features

- Charted Wrecks



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.4: Charted Wrecks

Date: 13/11/2024 Drawn: LD Checked: LC

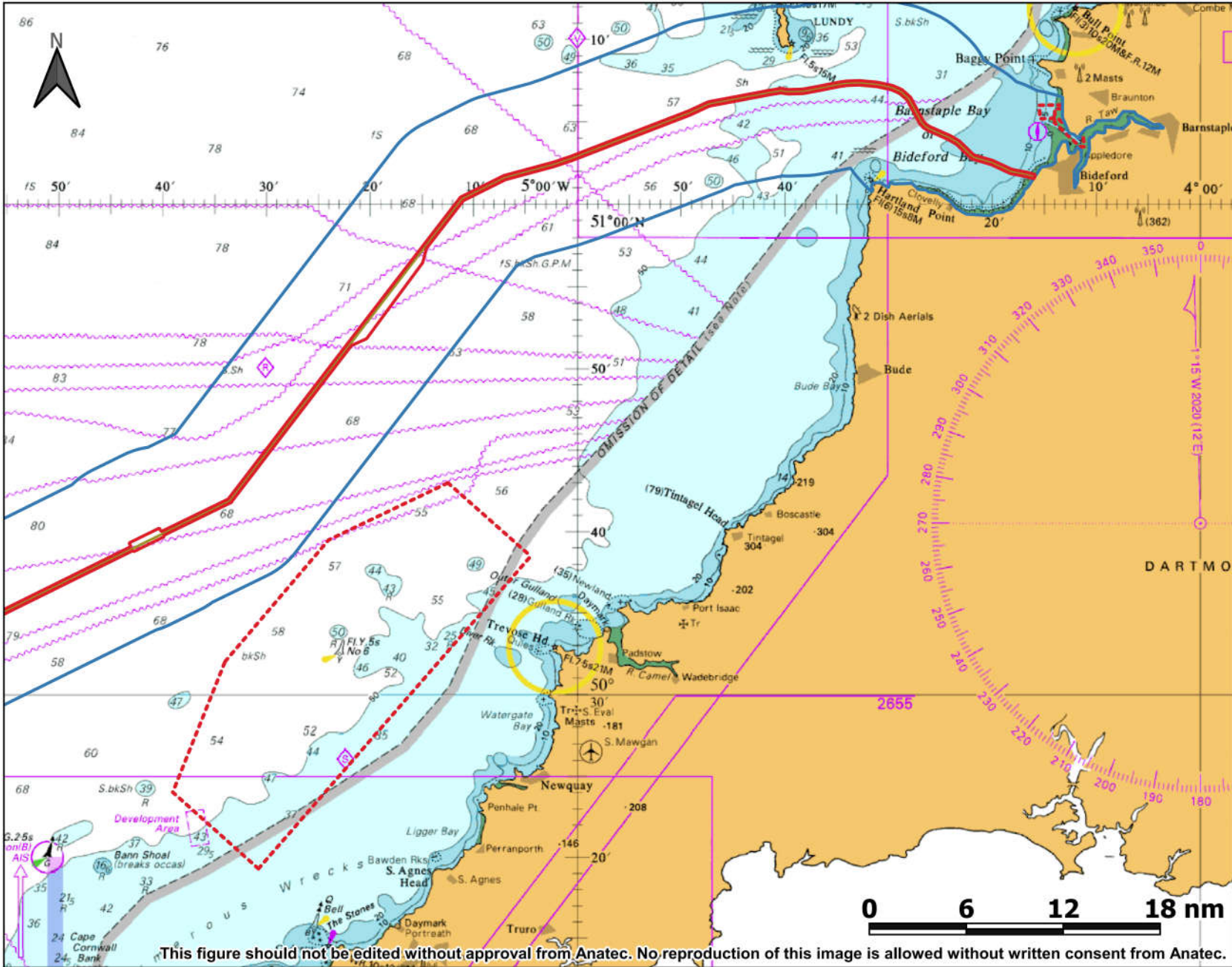
Coordinate System: WGS 84 / World Mercator

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There are a number of charted wrecks located throughout the study area, with none located within the Offshore Cable Corridor (noting that archaeological and heritage features were avoided when developing the route; c.f. Volume 3, Chapter 7: Marine Archaeology and Cultural Heritage, of the ES). The closest wreck to the Offshore Cable Corridor is located just outside of its boundary, within Bideford Bay.

6.5 Military Practice Areas

Figure 6.5 presents the locations of charted military practice areas in proximity to the Proposed Development.



- Legend**
- Xlinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
- Navigational Features**
- Firing Practice Areas



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.5: Military Practice Areas

Date: 13/11/2024	Drawn: LD	Checked: LC
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Coordinate System: WGS 84 / World Mercator

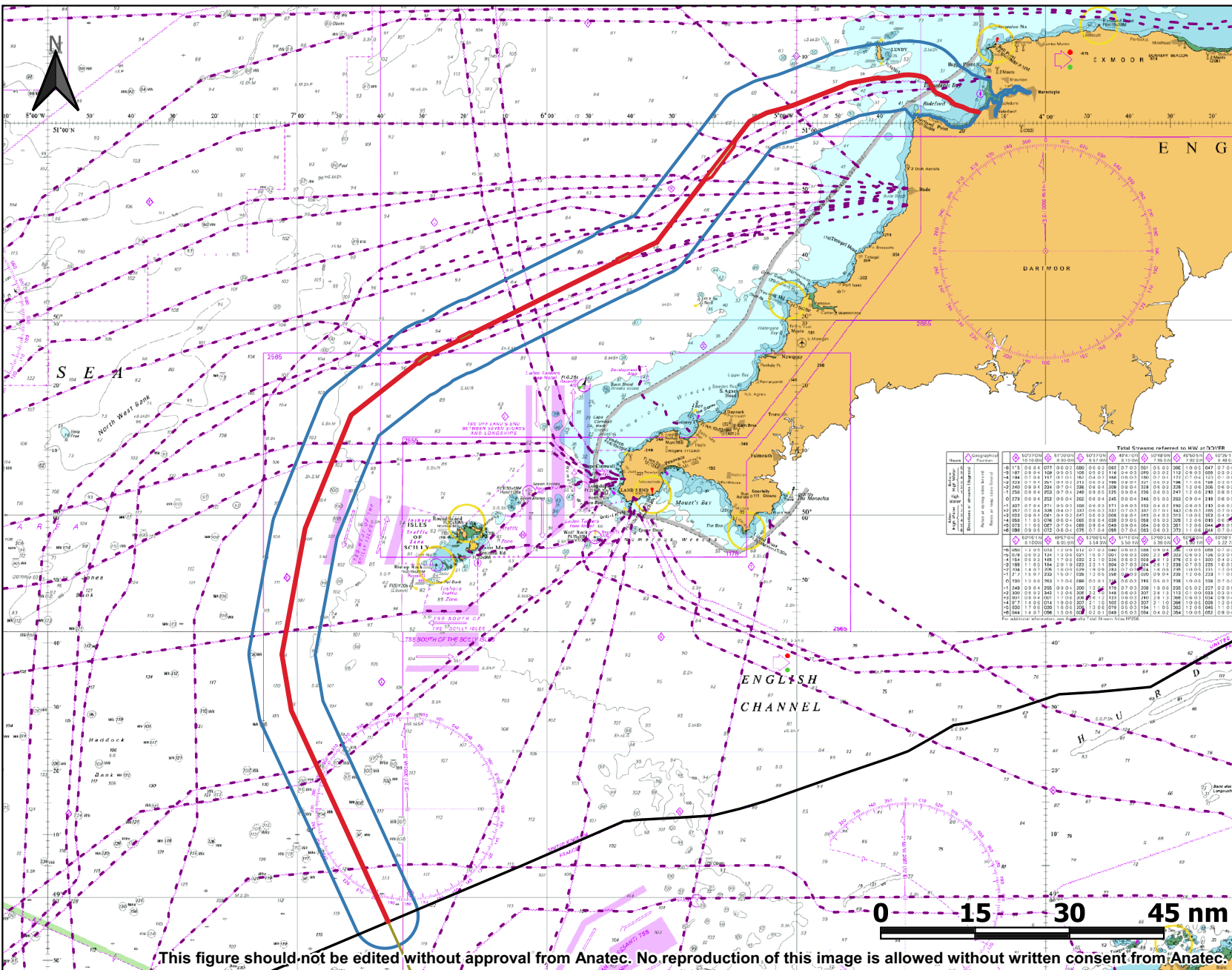
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Three firing practice areas are located within the vicinity of the Offshore Cable Corridor, the nearest being 3.5 nm north of the cable landfall. A larger firing practice area exists west of Trevoze Head covering an area of 230 nm² but does not intersect the study area. These firing practice areas are operated using a clear range procedure, meaning that firing and exercises take place when the areas are considered to be clear of shipping. No restriction is placed on the right to transit the firing practice areas at any time.

In addition to the charted firing practice areas, there are four military practice exercise areas (PEXAs) overlapping the Offshore Cable Corridor, with three of these (D064A, D064B and D064C) being used for air activity. It was noted during consultation that D064A is used by the Navy for air activity, and that the only surface presence may be aircraft carriers. The other, the Fleet Operation Southern Training area, is a Navy exercise area used for various activities including navigation and submarine exercises.

6.6 Subsea Cables

Figure 6.6 presents the locations of charted subsea cables in proximity to the Proposed Development.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area
- UK Exclusive Economic Zone (EEZ)

Navigational Features

- - - Subsea Cables



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.6: Subsea Cables

Date: 13/11/2024 Drawn: LD Checked: LC

Coordinate System: WGS 84 / World Mercator

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As can be seen, there are numerous charted subsea cables in the vicinity of the Offshore Cable Corridor. As noted in Volume 1, Chapter 3: Project Description of the ES, there are 20 anticipated crossings of planned and in-service cables within UK waters, with the majority of these intersections occurring towards the north of the study area associated with cables extending westwards from Bude. It is advised that vessels should not anchor or trawl in the vicinity of subsea cables.

6.7 Offshore Wind Farms

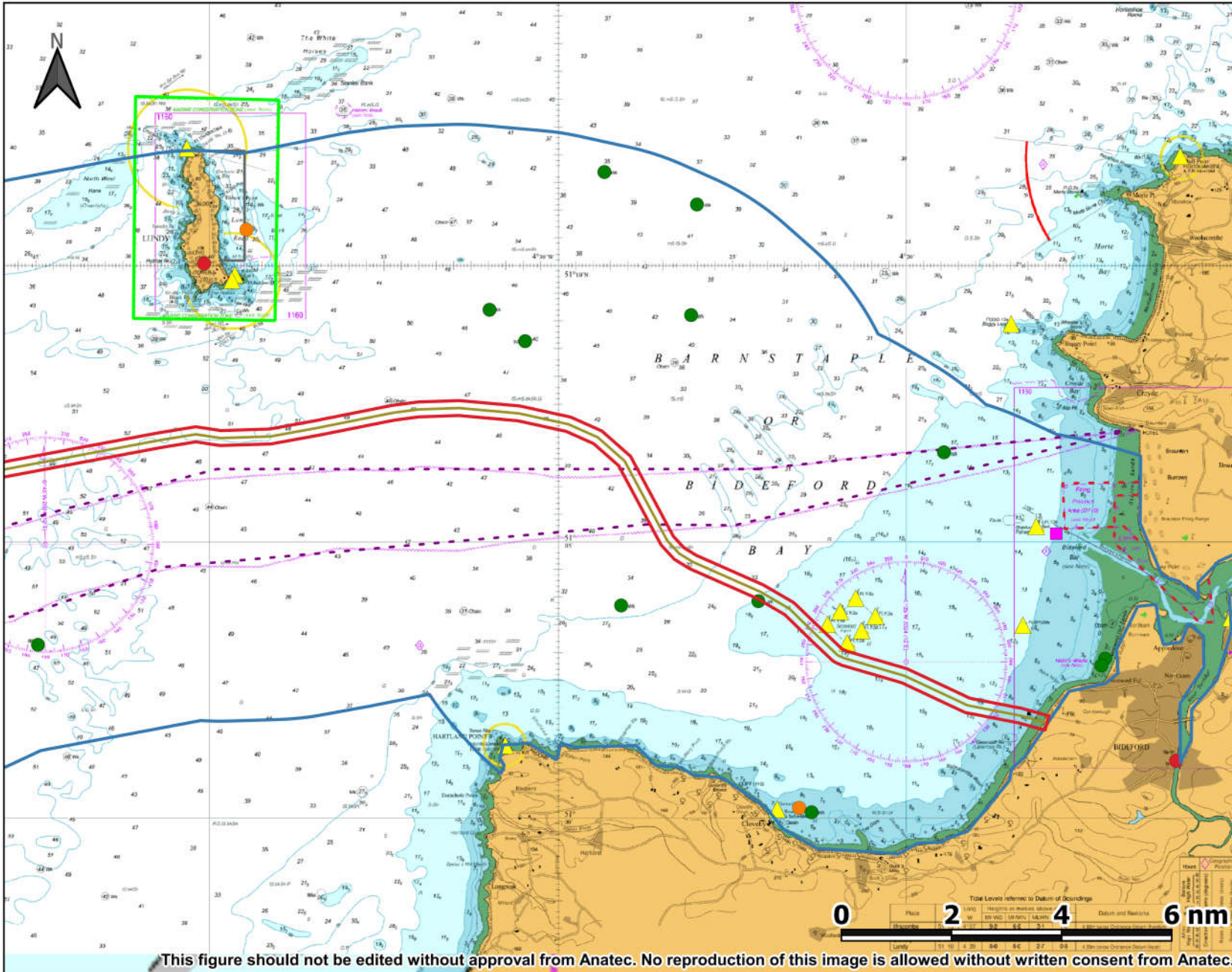
There are no operational or under construction OWFs in the vicinity of the Offshore Cable Corridor. Proposed OWFs are discussed in **section 9.9**.

6.8 Aggregate Dredging Areas

There are no aggregate dredging areas in proximity to the Offshore Cable Corridor. The closest area is approximately 19 nm north of the Offshore Cable Corridor, at Nobel Banks in the Bristol Channel.

6.9 Navigational Features in Proximity to the Landfall

Figure 6.7 presents an overview of the navigational features in proximity to the landfall.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area

Navigational Features

- ▲ Aids to Navigation
- Anchorage
- Charted Wrecks
- Pilot Boarding Location
- Ports and Harbours
- - - Firing Practice Areas
- No Take Zone
- - - Subsea Cables
- Marine Conservation Area



Project:
Xlinks' Morocco-UK Power Project

Figure Title:
Figure 6.7: Navigational Features in Proximity to the Landfall

Date: 13/11/2024	Drawn: LD	Checked: LC
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Coordinate System: WGS 84 / World Mercator

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The Island of Lundy is situated within the study area roughly 2.6 nm north of the Offshore Cable Corridor and is encompassed within a marine conservation area which is subject to restricted anchoring and diving activities. A No Take Zone (NTZ) exists on the eastern side of the Island. It should be noted that no living natural resources such as lobsters, crabs and fish are allowed to be removed from this zone.

There are a number of charted wrecks within Bideford Bay, including one on the southern edge of the Offshore Cable Corridor. There are also a number of Aids to Navigation (AtoNs) close to the landfall, with the closest being a lighted buoy 500 m north of the Offshore Cable Corridor, marking a seaweed farm along with five other AtoNs. Other AtoNs within the Bideford Bay area include a fairway buoy marking the approach to Bideford, lighted scientific buoys and the Lundy South and Hartland lighthouses.

To the north of the Offshore Cable Corridor landfall, there are two firing practice areas as discussed in **section 6.5**.

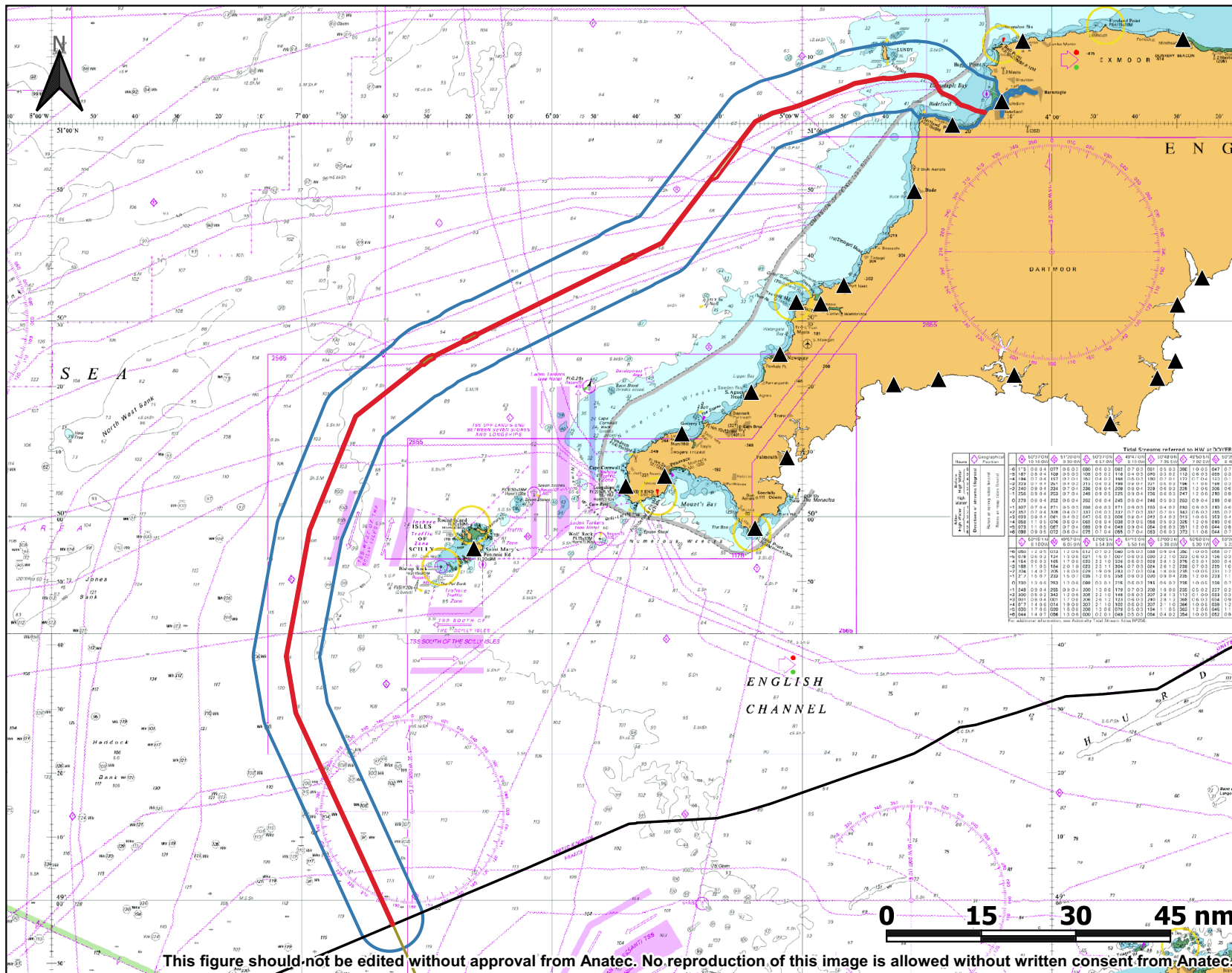
7 Emergency Response Overview

7.1 Introduction

This section summarises the existing emergency response resources (including SAR) and reviews historical maritime incident data to establish baseline incident rates in proximity to the Proposed Development.

7.2 RNLI

The RNLI is organised into six divisions, with the region relevant for the Proposed Development being the South West division. Based out of more than 230 stations, there are more than 350 lifeboats across the RNLI fleet, including both all-weather lifeboats (ALBs) and inshore lifeboats (ILBs). There are numerous RNLI stations within proximity to the Offshore Cable Corridor, presented in **Figure 7.1**.



- Legend**
- Xlinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
 - UK Exclusive Economic Zone (EEZ)
 - ▲ RNLI Stations

Total Crossings referred to MW at 700MB

Item	Geographic	02770N	01200W	02770N	01200W	04400N	02400W	04500N	02500W
16173	08.94	077	08.02	080	08.02	081	07.03	053	082
16184	09.94	147	05.01	190	04.02	188	06.03	190	01.01
16202	09.94	107	04.02	132	04.02	129	04.02	127	04.02
16240	09.94	224	07.01	238	08.04	238	08.03	238	12.06
16268	09.94	222	07.04	246	08.04	246	08.03	247	11.04
16379	09.94	222	06.04	262	08.04	240	08.04	240	09.04
16380	09.94	271	09.03	337	08.03	333	07.03	343	08.03
16388	09.94	084	04.02	045	04.02	045	04.02	045	04.02
16393	11.95	067	07.04	088	09.04	084	09.03	201	12.06
16486	09.94	052	04.02	076	01.04	089	01.04	053	04.02
16515	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16516	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16517	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16518	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16519	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16520	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16521	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16522	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16523	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16524	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16525	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16526	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16527	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16528	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16529	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16530	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16531	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16532	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16533	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16534	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16535	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16536	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16537	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16538	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16539	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16540	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16541	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16542	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16543	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16544	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16545	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16546	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16547	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16548	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16549	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16550	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16551	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16552	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16553	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16554	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16555	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16556	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16557	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16558	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16559	09.94	080	08.04	100	08.04	100	08.04	100	08.04
16560	09.94	080	08.04	100	08.04	100	08.04	100	08.04

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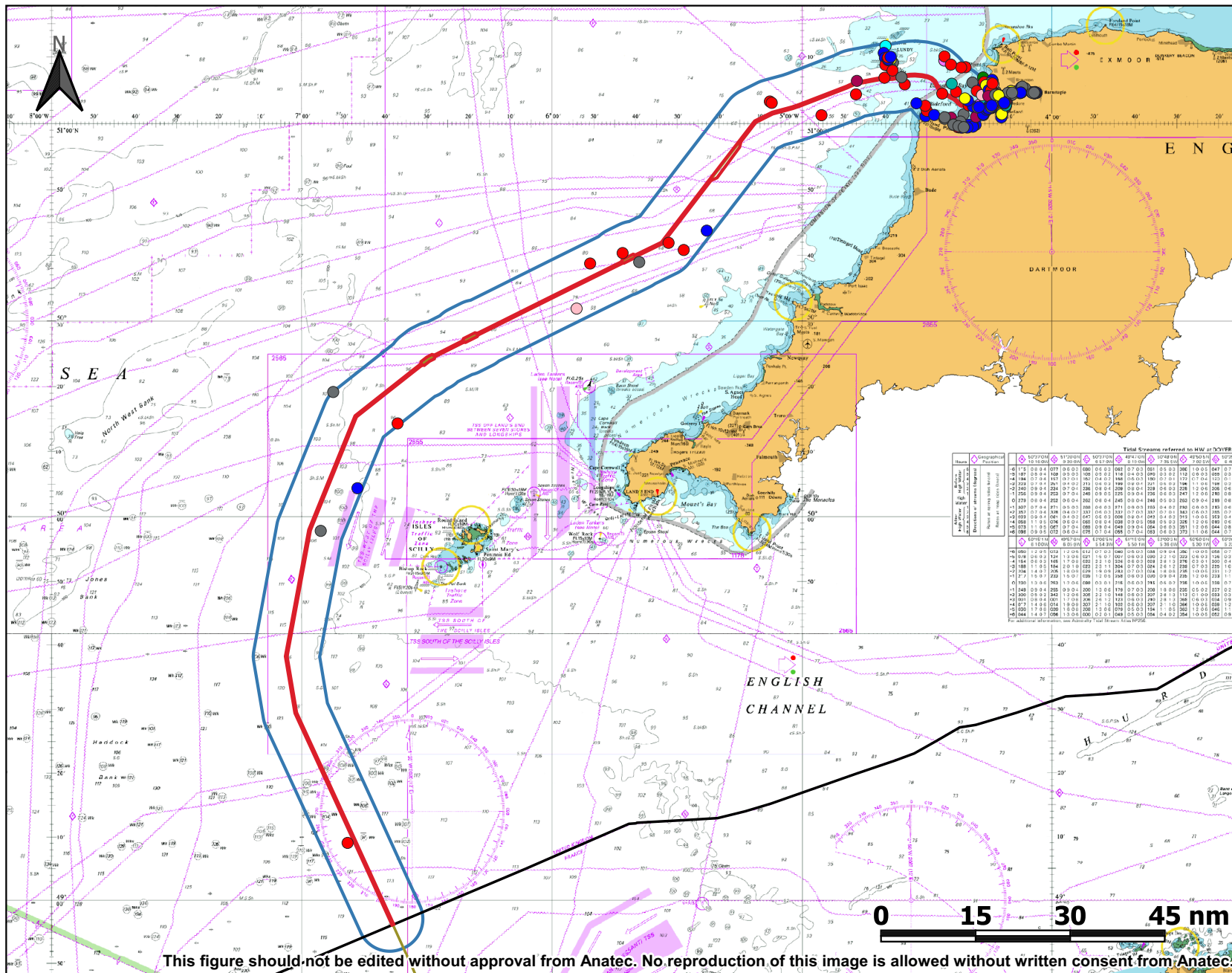
Figure Title:
Figure 7.1: RNLI Stations in Proximity to the Proposed Development

Date: 13/11/2024 Drawn: LD Checked: LC

Coordinate System: WGS 84 / World Mercator

The closest stations to the Offshore Cable Corridor are at Appledore, 2.9 nm to the northeast of the landfall in the entrance to the Taw Torridge Estuary, and Clovelly, 3 nm south of the Offshore Cable Corridor at the south of Bideford Bay. Along the west coast, nearby stations are located at Bude, Port Isaac, Rock, Padstow, Newquay, St Agnes, St Ives and Sennen Cove, with the St Mary's station also located on the Isles of Scilly

RNLI incident data covering the ten year period from 2014 to 2023 (inclusive) was reviewed. The locations of incidents recorded within the study area are shown in **Figure 7.2**, colour-coded by incident type.



Legend

- Xlinks UK Offshore Cable Corridor
- Indicative Cable Centreline
- Study Area
- UK Exclusive Economic Zone (EEZ)

RNLI Incident Type

- Adverse Conditions
- Capsize
- Collision
- Flooding/Foundering
- Grounding
- Machinery Failure
- Other
- Person in Danger
- Sail Failure
- Unspecified
- Vessel May be in Trouble
- Fire/Explosion

RNLI Incident Type		Total Incidents referred to HM at 2023																		
Incident Type	Number of Incidents	01/01/2014	01/01/2015	01/01/2016	01/01/2017	01/01/2018	01/01/2019	01/01/2020	01/01/2021	01/01/2022	01/01/2023	01/01/2024	01/01/2025	01/01/2026	01/01/2027	01/01/2028	01/01/2029	01/01/2030		
Adverse Conditions	171	28	34	077	05	02	580	05	02	281	07	03	05	03	202	10	05	047	07	01
Capsize	181	05	04	147	05	01	180	05	02	180	06	01	190	01	171	17	07	04	125	01
Collision	262	07	09	07	04	02	132	04	02	146	06	01	150	02	159	19	05	18	11	05
Flooding/Foundering	340	09	04	224	07	01	238	08	04	228	08	03	228	12	206	20	06	206	20	06
Grounding	125	02	04	02	07	04	08	05	02	225	05	03	247	11	05	18	18	18	18	18
Machinery Failure	379	04	04	22	01	04	302	08	04	245	04	340	05	03	703	09	04	218	08	01
Other	587	07	04	376	04	07	437	08	03	537	07	03	533	07	611	08	03	595	07	01
Person in Danger	62	05	01	04	06	01	02	06	01	06	02	04	05	01	01	01	01	01	01	01
Sail Failure	123	11	05	027	07	04	08	03	04	04	05	04	05	03	201	12	05	044	08	01
Unspecified	186	08	03	052	04	02	075	01	01	089	02	04	03	03	11	03	04	04	04	01
Vessel May be in Trouble	62	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
Fire/Explosion	11	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01



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Figure Title:
Figure 7.2: RNLI Incidents in Proximity to the Proposed Development (2014-2023)

Date: 13/11/2024 Drawn: LD Checked: LC

Coordinate System: WGS 84 / World Mercator

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It can be seen that RNLI incidents were typically recorded in nearshore areas within Bideford Bay, with a further concentration around the island of Lundy. 84% of incidents were responded to by the Appledore RNLI station, located at the mouth of the River Torridge. Clovelly (9%) and Ilfracombe (4%) also responded to a significant number of incidents within the study area. Four incidents were located within the Offshore Cable Corridor, three of which were machinery failures. The fourth was an incident of unspecified type involving a fishing vessel.

The distribution of incident types is presented in **Figure 7.3**.

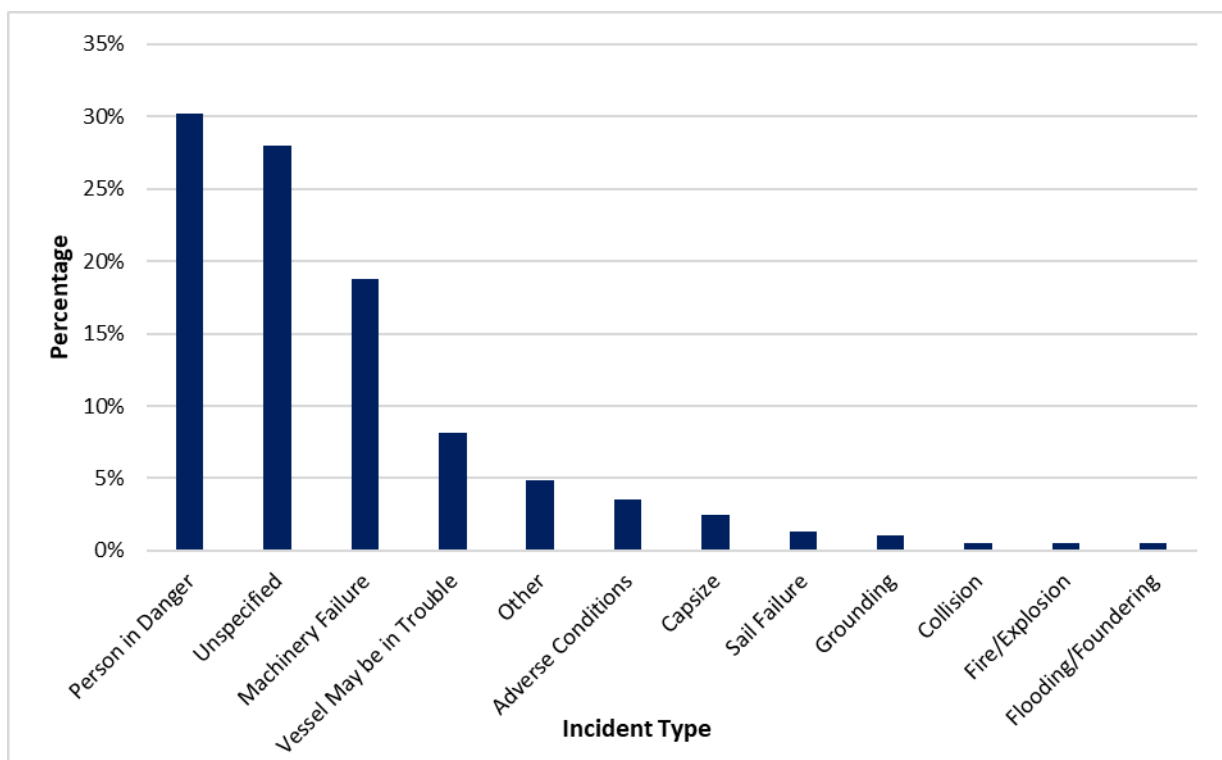


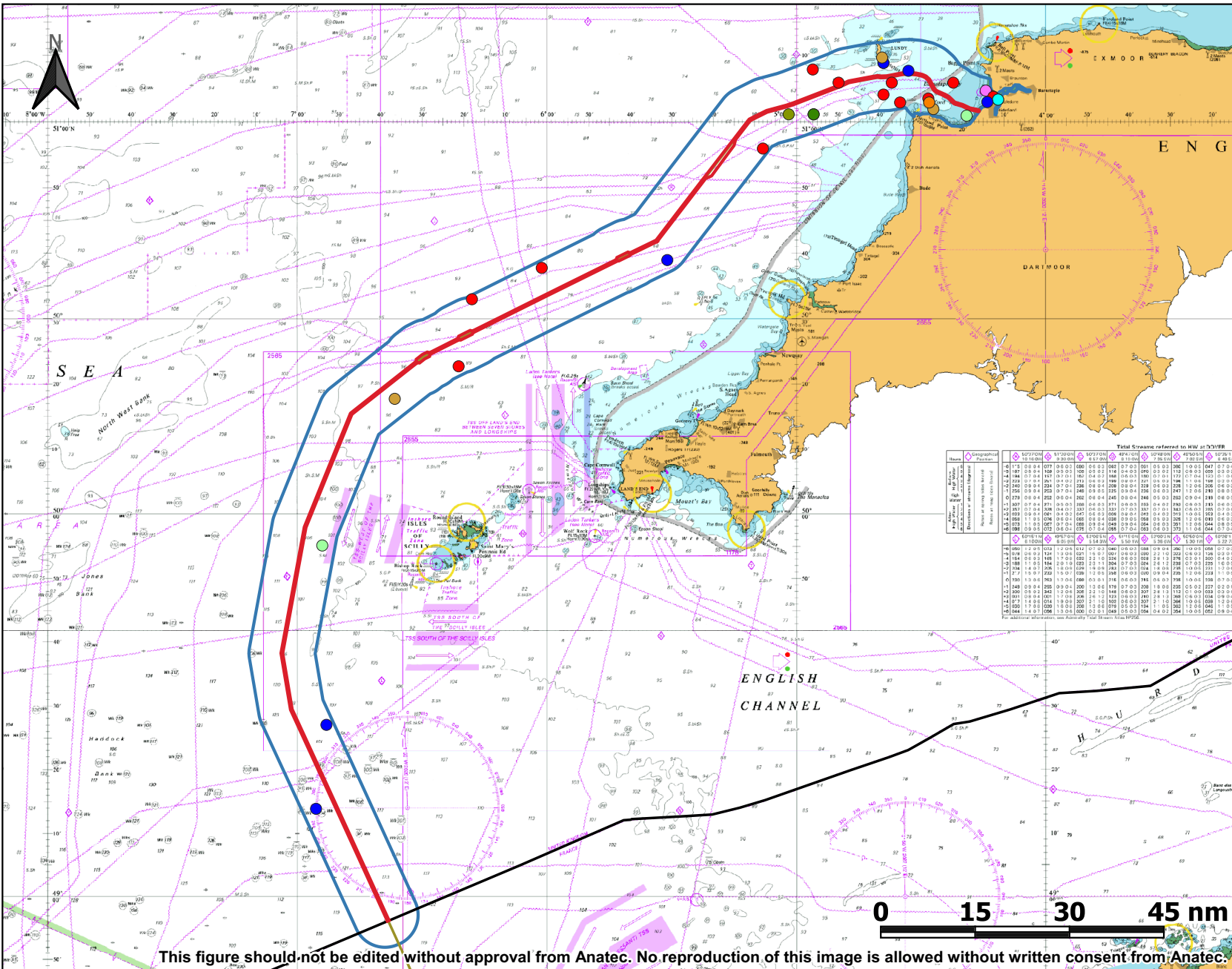
Figure 7.3 RNLI Incident Type Distribution (2014 – 2023)

In the ten-year period between 2014 and 2023, there was an average of 37 incidents per year within the study area. The most common incident types were “person in danger” incidents in near-shore areas, accounting for 30% of the incidents. Machinery failures were also common, making up 19% of incidents within the study area. Recreational vessels were the most common casualty type, accounting for 35% of RNLI callouts. Non-vessel based incidents accounted for 27% of callouts.

7.3 MAIB

All UK flagged vessels, and non-UK flagged vessels within UK waters which are within harbour limits or carrying passengers to or from a UK port, are required to report accidents to the MAIB. The MAIB also investigate incidents involving UK flagged vessels worldwide, or vessels

of any flag within UK territorial waters, as detailed in MGN 564 (Ref xi). Data arising from these reports are assessed within this section, covering the ten-year period from 2013 to 2022 (inclusive). **Figure 7.4** presents the locations of incidents recorded within the study area between 2013 and 2022, colour-coded by incident type.



- Legend**
- Klinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
 - UK Exclusive Economic Zone (EEZ)

- MAIB Incident Type**
- Accident To Person
 - Capsizing/listing
 - Collision
 - Contact
 - Damage / Loss Of Equipment
 - Fire/explosion
 - Grounding/stranding
 - Hazardous Incident
 - Machinery Failure
 - Pollution

Total Kinematics referred to MW at 700MB

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Accident To Person	0	0	0	0	0	0	0	0	0	0
Capsizing/listing	0	0	0	0	0	0	0	0	0	0
Collision	0	0	0	0	0	0	0	0	0	0
Contact	0	0	0	0	0	0	0	0	0	0
Damage / Loss Of Equipment	0	0	0	0	0	0	0	0	0	0
Fire/explosion	0	0	0	0	0	0	0	0	0	0
Grounding/stranding	0	0	0	0	0	0	0	0	0	0
Hazardous Incident	0	0	0	0	0	0	0	0	0	0
Machinery Failure	0	0	0	0	0	0	0	0	0	0
Pollution	0	0	0	0	0	0	0	0	0	0

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Figure Title:
Figure 7.4: MAIB Incidents in Proximity to the Proposed Development (2013-2022)

Date: 13/11/2024 Drawn: LD Checked: LC

Coordinate System: WGS 84 / World Mercator

The MAIB recorded incidents throughout the study area, with a higher concentration of incidents recorded within Bideford Bay close to the landfall. It is noted that machinery failures may lead to drifting and a requirement to drop anchor to avoid further incidents from developing. Machinery failures were recorded both within Bideford Bay and further south, close to the TSS lanes around the Isles of Scilly. **Figure 7.5** presents the distribution of incident types recorded by the MAIB.

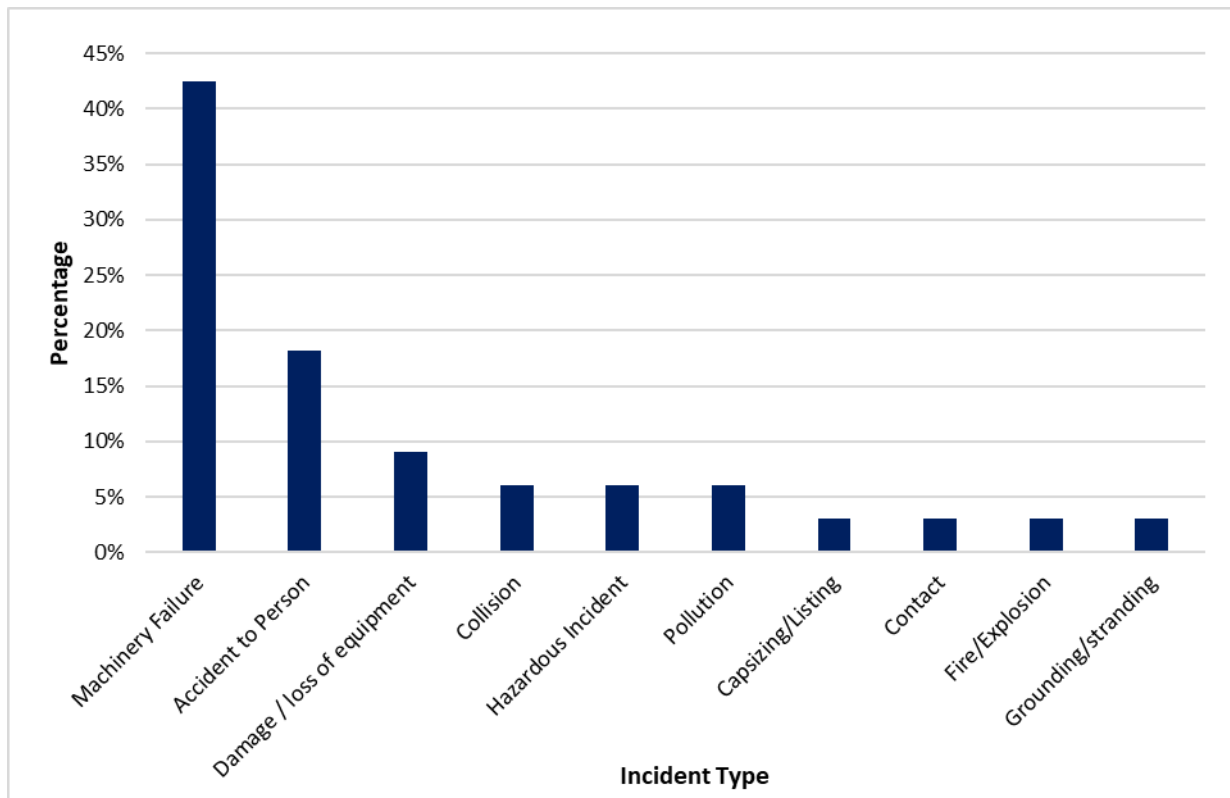


Figure 7.5 MAIB Incident Type Distribution

In the ten-year period from 2013 to 2022, there was an average of three to four incidents per year recorded by the MAIB, with 42% of these being machinery failures. Accident to person incidents (18%), damage/loss of equipment (9%) and collision incidents (6%) also made up significant proportions of the incidents recorded by the MAIB.

Fishing vessels accounted for 44% of MAIB-recorded incidents, with other commercial vessels (15%), recreational craft (15%) and dry cargo vessels (15%) also notable.

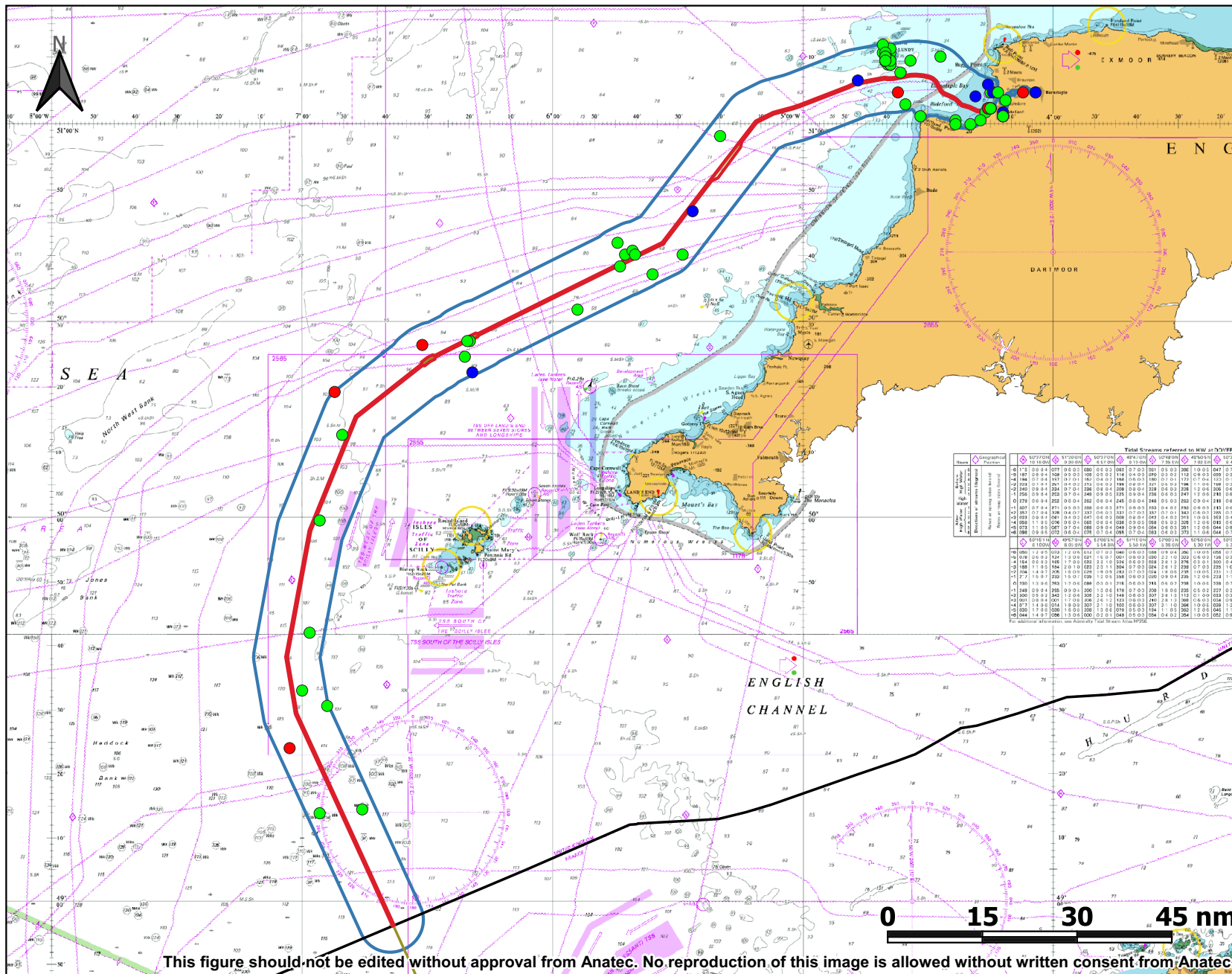
During consultation with Trinity House, it was noted that incidents of dropped objects such as containers were relatively common in the area around Land's End.

7.4 SAR Helicopters

In July 2022, the Bristow Group were awarded a new 10-year contract by the MCA (as an executive agency of the DfT) commencing in September 2024 to provide helicopter SAR operations in the UK. Bristow have been operating the service since April 2015.

There are currently ten base stations for the SAR helicopter service, responding to incidents overland, around the coast and at sea. The most relevant stations to the Proposed Development are Newquay, located 25 nm east of the Offshore Cable Corridor on the north coast of Cornwall, and St Athan, approximately 38 nm to the northeast of the Offshore Cable Corridor in the Bristol Channel.

Figure 7.6 presents the locations of SAR helicopter taskings recorded within the study area between 2015 and 2024, colour-coded by tasking type.




- Legend**
- Xlinks UK Offshore Cable Corridor
 - Indicative Cable Centreline
 - Study Area
 - UK Exclusive Economic Zone (EEZ)
- SAR Helicopter Tasking Type**
- Pre-arranged Transfer
 - Rescue/Recovery
 - Search
 - Support

Total Crossings referred to MW at 20/08/24

Area	Geographical	02770N	017200N	02770N	04100N	02740N	04300N	02760N
14	171	28	94	077	05	05	05	05
14	181	28	94	077	05	05	05	05
14	191	28	94	077	05	05	05	05
14	201	28	94	077	05	05	05	05
14	211	28	94	077	05	05	05	05
14	221	28	94	077	05	05	05	05
14	231	28	94	077	05	05	05	05
14	241	28	94	077	05	05	05	05
14	251	28	94	077	05	05	05	05
14	261	28	94	077	05	05	05	05
14	271	28	94	077	05	05	05	05
14	281	28	94	077	05	05	05	05
14	291	28	94	077	05	05	05	05
14	301	28	94	077	05	05	05	05
14	311	28	94	077	05	05	05	05
14	321	28	94	077	05	05	05	05
14	331	28	94	077	05	05	05	05
14	341	28	94	077	05	05	05	05
14	351	28	94	077	05	05	05	05
14	361	28	94	077	05	05	05	05
14	371	28	94	077	05	05	05	05
14	381	28	94	077	05	05	05	05
14	391	28	94	077	05	05	05	05
14	401	28	94	077	05	05	05	05
14	411	28	94	077	05	05	05	05
14	421	28	94	077	05	05	05	05
14	431	28	94	077	05	05	05	05
14	441	28	94	077	05	05	05	05
14	451	28	94	077	05	05	05	05
14	461	28	94	077	05	05	05	05
14	471	28	94	077	05	05	05	05
14	481	28	94	077	05	05	05	05
14	491	28	94	077	05	05	05	05
14	501	28	94	077	05	05	05	05
14	511	28	94	077	05	05	05	05
14	521	28	94	077	05	05	05	05
14	531	28	94	077	05	05	05	05
14	541	28	94	077	05	05	05	05
14	551	28	94	077	05	05	05	05
14	561	28	94	077	05	05	05	05
14	571	28	94	077	05	05	05	05
14	581	28	94	077	05	05	05	05
14	591	28	94	077	05	05	05	05
14	601	28	94	077	05	05	05	05
14	611	28	94	077	05	05	05	05
14	621	28	94	077	05	05	05	05
14	631	28	94	077	05	05	05	05
14	641	28	94	077	05	05	05	05
14	651	28	94	077	05	05	05	05
14	661	28	94	077	05	05	05	05
14	671	28	94	077	05	05	05	05
14	681	28	94	077	05	05	05	05
14	691	28	94	077	05	05	05	05
14	701	28	94	077	05	05	05	05
14	711	28	94	077	05	05	05	05
14	721	28	94	077	05	05	05	05
14	731	28	94	077	05	05	05	05
14	741	28	94	077	05	05	05	05
14	751	28	94	077	05	05	05	05
14	761	28	94	077	05	05	05	05
14	771	28	94	077	05	05	05	05
14	781	28	94	077	05	05	05	05
14	791	28	94	077	05	05	05	05
14	801	28	94	077	05	05	05	05
14	811	28	94	077	05	05	05	05
14	821	28	94	077	05	05	05	05
14	831	28	94	077	05	05	05	05
14	841	28	94	077	05	05	05	05
14	851	28	94	077	05	05	05	05
14	861	28	94	077	05	05	05	05
14	871	28	94	077	05	05	05	05
14	881	28	94	077	05	05	05	05
14	891	28	94	077	05	05	05	05
14	901	28	94	077	05	05	05	05
14	911	28	94	077	05	05	05	05
14	921	28	94	077	05	05	05	05
14	931	28	94	077	05	05	05	05
14	941	28	94	077	05	05	05	05
14	951	28	94	077	05	05	05	05
14	961	28	94	077	05	05	05	05
14	971	28	94	077	05	05	05	05
14	981	28	94	077	05	05	05	05
14	991	28	94	077	05	05	05	05
14	1001	28	94	077	05	05	05	05

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Figure Title:
Figure 7.6: SAR Helicopter Taskings in Proximity to the Proposed Development (2015-2024)

Date: 13/11/2024 **Drawn:** LD **Checked:** LC

Coordinate System: WGS 84 / World Mercator

From April 2015 to March 2024, there were a total of 109 SAR helicopter taskings within the study area, with 50 of these clustered around the island of Lundy. A further 28 were located around the Offshore Cable Corridor Landfall in Bideford Bay. The remaining taskings were spread throughout the study area. The most common type of tasking was “Rescue/Recovery” accounting for 77% of taskings within the study area. All taskings were launched from St Athan or Newquay.

7.5 Marine Rescue Coordination Centres and Joint Rescue Coordination Centres

HMCG, a division of the MCA, is responsible for requesting and tasking SAR resources made available to other authorities and for coordinating the subsequent SAR operations (unless they fall within military jurisdiction).

The HMCG coordinates SAR operations through a network of 11 Maritime Rescue Coordination Centres (MRCC), including a Joint Rescue Coordination Centre (JRCC) based in Hampshire.

All of the MCA’s operations, including SAR, are divided into 18 geographical regions. The Proposed Development lies within Areas 11 and 12, “Cornwall including Isles of Scilly” and “North Devon including Severn Estuary”. The closest MRCCs to the Proposed Development are at Falmouth, 38.5 nm to the southeast of the Offshore Cable Corridor in Cornwall, and Milford Haven, approximately 37.0 nm north of the Offshore Cable Corridor in Wales. It is noted that incident response is not necessarily coordinated by the nearest MRCC, as operators may be unavailable, and calls re-routed to another MRCC.

8 Consultation

Shipping and navigation stakeholders have been consulted as part of the NRA process. The following sections present the key points from consultation, including the Scoping Opinion, Preliminary Environmental Information Report (PEIR) responses, as well as feedback gathered during consultation meetings and through email correspondence.

8.1 Scoping Opinion

The Scoping Report for the Proposed Development was submitted to the Planning Inspectorate in January 2024. Following consultation with the appropriate statutory bodies, the Scoping Opinion was then provided by the Planning Inspectorate on 7th March 2024. Key issues raised during the scoping process specific to the NRA are listed in **Table 8.1**, together with details of how these issues have been addressed within this NRA.

Table 8.1 Summary of Scoping Responses Relevant to Shipping and Navigation

Consultee	Issue Raised	How and Where Considered in the NRA
Planning Inspectorate Scoping Response	Several aspect chapters in the Scoping Report refer to fixed distance study areas with no explanation as to why these have been selected. The ES should ensure the study area for each aspect reflects the Proposed Development's ZOI and the impact assessment should be based on the ZOI from the Proposed Development with reference to potential effect pathways. Clear justification should be provided to support any distances applied.	The study area for Shipping and Navigation, and the justification for the study area defined, is presented in Figure 2.1 .
	The Inspectorate acknowledges that data and knowledge regarding the baseline environment exists for the offshore area in which the Proposed Development would be located. The Inspectorate understands the benefits of utilising this information to supplement site-specific survey data but advises that suitable care should be taken to ensure that the information in the ES remains representative and fit for purpose. The Applicant should make effort to agree the suitability of information used for the assessments in the ES with relevant consultation bodies.	The data sources used to establish the baseline environment are presented in section 5 . The data sources used were presented during consultation with the stakeholders listed in section 8 .
	The Scoping Report states that changes could occur from presence of rock	Impacts on Shipping and Navigation users due to the presence of rock

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>berms, which may be required for cable protection at crossings or in isolated hard seabed areas during operation. It appears possible that rock berms would be in place for extended periods of construction activity in advance of the cable becoming operational and that mitigation may also be required during this period.</p> <p>The Inspectorate advises that the potential for change to the hydrodynamic regime due to the presence of cable protection should be assessed for the phases during which it is likely to give rise to significant effects and that the ES should describe any mitigation required and explain how this would be secured in the DCO.</p>	<p>berms and any other external cable protection measures are assessed in the impact assessment presented in section 11. This includes assessment of the construction phases where protection may be partially or fully in place prior to the cable becoming operational. Mitigation measures are presented in section 11.</p>
	<p>The ES should consider the removal of hard substrate in the decommissioning (removal) phase, where likely significant effects could occur, or provide evidence demonstrating agreement with the relevant consultation bodies that significant effects are not likely to occur.</p>	<p>The removal of rock berms is not anticipated to have any effect on Shipping and Navigation users. Impacts relating to vessels involved in the decommissioning of the cable, including those removing rock berms or any other external cable protection are assessed in section 11.</p>
	<p>On the basis that no/very few vessels would be present during the operational (excluding repair) and decommissioning (in situ) phases, the Inspectorate is content that collision of a passing third-party vessel with a vessel associated with cable installation, maintenance or decommissioning can be scoped out of further assessment for these phases of the Proposed Development</p>	<p>No action required (scoped out).</p>
	<p>The Applicant proposes to scope out an assessment of vessel drags anchor over the cable, vessel anchors over the cable in an emergency, and a vessel engaged in fishing snags its gear on the cable during operational (repair) and decommissioning (removal). However, no justification has</p>	<p>The impacts noted have been considered in the impact assessment in section 11.</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>been provided to explain why these activities would not result in similar impacts compared to the construction and operation phases of the Proposed Development. It appears likely that the presence of infrastructure will remain a risk for vessel anchors and snagging of fishing gear during operational repair activities and until the cable is entirely removed at decommissioning stage (where this method is selected). The Inspectorate therefore does not agree that that these potential impacts can be scoped out of the assessment for these phases of the Proposed Development. accordingly, the ES should include an assessment of these matters or provide a justification (for instance through explaining the relevant mitigation and how it has been secured) as to why likely significant effects would not arise</p>	
	<p>The Inspectorate considers that the presence of infrastructure would result in a reduction in under keel clearance during the construction phase as it progresses and also remain until removed entirely (where removal is sought). Therefore, the Inspectorate does not agree this potential impact can be scoped out of the assessment for these phases of the Proposed Development. The ES should include an assessment of this matter, where likely significant effects could occur.</p>	<p>Consideration has been given to the reduction in under keel clearance due to the laid cable and associated protection during the construction phase in the impact assessment in section 11.</p>
	<p>The Scoping Report states that the cable and associated protection may lead to a reduction in under-keel clearance, which could pose a risk of vessels grounding. However, no evidence has been provided to explain why operational repairs would not lead to potential impacts resulting from a reduction in under-keel clearance. In the absence of this information, the Inspectorate is not in a position to agree to</p>	<p>Consideration has been given to the reduction in under keel clearance due to the laid cable and associated protection during the operational phase in impact assessment in section 11.</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	scope out this matter from further assessment.	
	The Scoping Report acknowledges that the EMF created by buried direct current cables has the potential to create interference on a vessel's magnetic compass and thus this matter is scoped into the assessment for the operational phase. On the basis that EMF would only be generated when the cable is active/live, the Inspectorate agrees that this matter can be scoped out from an assessment for the construction, operational (repair) and decommissioning phases.	No action required (scoped out)
	On the basis that access to local ports is unlikely to arise during operation and decommissioning (where the cable is left in situ), the Inspectorate is content that this matter can be scoped out of further assessment. However, it is unclear whether the operational maintenance (repair) stage could result in reduced access to local ports. The ES should include an assessment of this matter for the Operational (repair) stage, where likely significant effects could occur	Reduction in access to local ports has been considered in the assessment of operational effects in section 11 .
	The Scoping Report proposes to determine significance as either broadly acceptable, tolerable, or unacceptable. The ES should clearly set out how the risk assessment approach leads to an assessment of significance of effect consistent/compatible with the terminology used in the ES, for which the intended approach is set out in Chapter 5 (Section 5.5) of the Scoping Report	The impact assessment methodology for shipping and navigation is outlined in section 4 . The impact assessment is presented in section 11 , while the impact assessment presented in Volume 3, Chapter 5: Shipping and Navigation of the ES notes how the significance of each impact relates to the terminology defined in the EIA Regulations.
	The ES should assess impacts from climate change, including extreme weather events over the construction and decommissioning periods, where significant effects are likely to occur and describe and secure any relevant mitigation measures.	Impacts from climate change are considered within Volume 4, Chapter 1: Climate Change of the ES.

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>The ES should set out the methodologies used to explain any departure from the proposed approach where professional judgement is applied. Outputs from other assessments should be clearly explained where these have been applied.</p>	<p>The impact assessment methodology for shipping and navigation is outlined in section 4.</p>
	<p>Where significance criteria are not explicitly defined within the guidance, the ES should clearly set out where deviation from guidance has occurred and professional judgement has been applied.</p>	<p>The impact assessment methodology for shipping and navigation is outlined in section 4 while the impact assessment presented in Volume 3, Chapter 5: Shipping and Navigation of the ES notes how the significance of each impact relates to the terminology defined in the EIA Regulations.</p>
	<p>A standalone ES chapter for major accidents and disasters is not proposed on the basis that potential accidents and disasters will be assessed in other aspect chapters, where relevant, including significant effects arising from the vulnerability of the Proposed Development to major accidents and disasters.</p> <p>The Inspectorate notes that various aspect chapters in the Scoping Report do not clearly identify those impacts scoped-in to the assessment that include an assessment of major accidents and disasters. The Inspectorate advises that the ES ensures clarity on what has been considered within the technical assessments. The Inspectorate would expect an overarching section in the ES which explains how potential impacts have been identified and where in the ES the assessment of their effects is presented.</p>	<p>The risk of accidental pollution occurring due to vessel-based incidents including grounding and collision incidents has been considered within the impact assessment presented in section 11. For any accidental pollution occurring either involving a project vessel or in proximity to the Proposed Development, the Marine Pollution Contingency Plan (MPCP) will be implemented as per the mitigation measures listed in section 11.2.</p> <p>An overarching section on Major Accidents and Disasters is included in Volume 1, Chapter 3: Project Description of the ES to signpost where these have been assessed in individual chapters.</p>
	<p>The Scoping Report confirms that EMFs generated during the operation of the Proposed Development will be considered in relevant aspect chapters, including shipping and navigation, and would not be included in a standalone ES chapter in</p>	<p>The effects of EMF on marine navigational equipment are discussed in section 10, and assessed within section 11.</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	respect of heat and radiation. The Inspectorate is content with this approach.	
MCA	<p>The development area carries a significant amount of through traffic to major ports, with a number of important international shipping routes in close proximity, including the Traffic Separation Scheme (TSS) South of the Scilly Isles, West of the Scilly Isles and the TSS off Lands End. Attention needs to be paid to changes in vessel routing, particularly in heavy weather ensuring shipping can continue to make safe passage without large-scale deviations, and any reduction in navigable depth referenced to chart datum.</p>	<p>Vessel traffic, including routeing and the TSSs are highlighted within the discussion of the baseline environment presented in section 6. The displacement of vessels from established routes and reduction in navigable depth in the impact assessment presented in section 11.</p>
	<p>The Environmental Statement (ES) will consider the potential impacts of the construction, operation, maintenance and decommissioning phases of the proposed development and will follow the IMO Formal Safety Assessment methodology, which we welcome. The information from the Navigation Risk Assessment (NRA) will feed into the shipping and navigation chapter of the ES. The ES should supply detail on the possible impact on navigational issues for both commercial, fishing and recreational craft, specifically:</p> <ul style="list-style-type: none"> ▪ Collision Risk ▪ Navigational Safety ▪ Visual intrusion and noise ▪ Risk Management and Emergency response ▪ Marking and lighting of site and information to mariners ▪ Effect on small craft navigational and communication equipment ▪ The risk to drifting recreational craft in adverse weather or tidal conditions 	<p>An assessment of the impacts carried out in line with the IMO Formal Safety Assessment methodology is presented in section 11.</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>The likely squeeze of small craft into the routes of larger commercial vessels.</p>	
	<p>The MCA welcomes the commitment in section 8.6.44 to undertake an NRA including a baseline study which will summarise the navigational features, historical incident data, vessel activity including anchoring and fishing activity, and any other navigational data available. The NRA should establish how the phases of the project are managed to a point where risk is reduced and considered to be 'as low as reasonably practicable' (ALARP). The MCA would also welcome a hazard identification workshop to bring together relevant navigational stakeholders for the area to discuss the potential impacts on navigational safety associated with the proposed development.</p>	<p>The NRA considers navigational features (section 6), historical incident data (section 7) and vessel activity (section 9). It was agreed in consultation with the MCA that detailed consultation would be carried out individually with stakeholders, in place of a hazard identification workshop. Consultation has been held with national and regional stakeholders, including ferry operators and local ports. It was agreed in consultation with the MCA that separately consulting navigational stakeholders was suitable in place of a hazard identification workshop.</p>
	<p>Attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and subject to the traffic volumes, an anchor penetration study may be necessary. Where cable protection measures are required e.g., rock bags or concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and at cable crossings where potential impacts on navigable water increase. Where this is not achievable, the applicant must discuss further with the MCA.</p>	<p>Reduction in under keel clearance due to the implementation of external cable protection is considered within the impact assessment presented in section 11. Compliance with the MCA guidance on the reduction in water depths is included within the mitigation measures adopted as part of the Proposed Development, detailed in section 11.2.</p>
	<p>Safe realistic under keel clearance (UKC) assessment should be undertaken for the maximum drafts of vessel both observed and anticipated, using the MCA's Under Keel Clearance Policy paper for guidance.</p>	<p>An assessment of the reduction in under keel clearance due to the presence of external cable protection has been undertaken and is presented in the impact assessment presented in section 11. Vessel draughts both within the study area and specific to shallow waters have been considered within</p>

Consultee	Issue Raised	How and Where Considered in the NRA
		<p>this. Compliance with the MCA guidance on the reduction in water depths is included within the mitigation measures adopted as part of the Proposed Development, detailed in section 11.2.</p>
	<p>A study should be undertaken to establish the electromagnetic deviation, affecting ship compasses and other navigating systems, of the high voltage cable route to the satisfaction of the MCA. On receipt of the study, the MCA reserves the right to request a deviation survey of the cable route post installation. There must be no more than a 3-degree electromagnetic compass deviation for 95% of the cable route and for the remaining 5% of the cable route there must be no more than a 5 degree electromagnetic compass deviation. If the MCA requirement cannot be met, a post installation actual electromagnetic compass deviation survey should be conducted for the cable in areas where compliance has not been achieved. We note this has been scoped in for the operational phase of the project, which we welcome.</p>	<p>A review of the impacts associated with electromagnetic interference with compasses is presented in section 10. Due to the bundling of the cables, and the distance between the cables and vessels, there are not anticipated to be any effects on compass deviation.</p>
	<p>We note that there are no potential impacts on shipping and navigation that have been scoped out for the ES, which the MCA welcomes. The MCA will of course provide full consideration of the detailed proposals, along with the supporting Navigation Risk Assessment which may highlight further areas for consideration and risk mitigation measures.</p>	<p>No further action.</p>
<p>Defence Infrastructure Organisation</p>	<p>Please note, there are other defence interests in the locality relating to navigational interests and installations that are not defined in the public domain. The MOD will be able to provide specific advice, as may be necessary, on the proposed cable installation when more detailed information becomes available.</p>	<p>Consultation with the DIO was carried out and is summarised in Table 8.3.</p>

8.2 Preliminary Environmental Information Report Responses

The PEIR was published on 16th May 2024, presenting the preliminary findings of the EIA process. The PEIR was prepared to provide the basis for statutory public consultation under the Planning Act 2008. This included consultation with statutory bodies under section 42 of the Planning Act 2008. A summary of the key items raised specific to the NRA is presented in **Table 8.2**, together with how these issues have been considered in the production of this NRA.

Table 8.2 Summary of PEIR Responses Relevant to Shipping and Navigation

Consultee	Issue Raised	How and Where Considered in the NRA
MCA	The MCA is content with the assessment undertaken within the Navigation Risk Assessment (NRA) which summarises the navigational features, historical incident data, vessel activity including anchoring and fishing activity, and other navigational data available, and how the phases of the project are managed to a point where risk is reduced and considered to be 'as low as reasonably practicable' (ALARP).	No further action.
	The applicant is reminded that any cable protection must not exceed a maximum 5% reduction in surrounding depth referenced to chart datum, unless otherwise agreed with the MCA. We note the commitment that relevant policy guidance on water depth reduction will be followed during the design and construction of the project. Preliminary findings suggest that no areas are at risk of reducing water depth by more than the MCA stipulated 5%.	Reduction in under keel clearance is considered within the impact assessment in section 11 . It is noted within the mitigation measures listed in section 11.2 that should any areas of external cable protection reduce water depth by more than 5%, detailed assessment and consultation with the MCA and Trinity House will be carried out.
	Should external protection reduce water depth by more than 5% in any area, this will require consultation with the MCA and further detailed assessment may be required in order to assess the subsea cables protection against shipping and fishing activities (anchoring and trawling) and to ensure navigational safety is not compromised. The MCA welcomes the development and review of the Cable Burial Risk Assessment (CBRA) which will inform	It is noted within the mitigation measures listed in section 11.2 that should any areas of external cable protection reduce water depth by more than 5%, detailed assessment and consultation with the MCA and Trinity House will be carried out.

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>detailed understanding of the burial details along the Offshore Cable Corridor in the Environmental Statement.</p>	
	<p>The MCA would expect a post lay cable burial survey to be carried out to confirm where the target depths have or have not been met. Any locations where the cable remains as either surface laid or shallow buried should be reassessed, considering the traffic levels and types of vessel activity in that area as further risk mitigation may be required, such as an anchor penetration study. This should be discussed further once the final installation techniques have been identified, with relevant stakeholders including local ports and harbours and the MCA.</p>	<p>Post-lay cable burial surveys are anticipated, as noted in section 2.2.3, and in section 11.4.2.</p>
	<p>Vessel movements associated with construction activities may lead to temporary reduction of access or disruption to pilotage, particularly if project vessels are using one of the local harbours. HDD works in particular have potential to lead to disruption given these may involve large jack-up vessels which are RAM status in nearshore areas. Therefore, liaison with local pilots, ports and harbours should be undertaken to limit disruption to access. We note the Vessel Management Plan will be developed which will set out pre-agreed vessel routes, speeds, safety measures, communication expectations etc, which we welcome.</p>	<p>Consultation with the pilot for the Taw and Torridge District was carried out, with key points summarised in Table 8.3. A VMP will be prepared, as noted in section 11.2.</p>
	<p>The MCA requires a study to be undertaken to establish the electromagnetic deviation, affecting ship compasses of the high voltage cable route. This must demonstrate that there is no more than a 3-degree electromagnetic compass deviation for 95% of the cable route and for the remaining 5% of the cable route there must be no more than a 5 degree electromagnetic compass deviation. If the</p>	<p>A review of the impacts associated with electromagnetic interference with compasses is presented in section 9. Due to the bundling of the cables, and the distance between the cables and vessels, there are not anticipated to be any effects on compass deviation.</p> <p>When final design engineering is complete, if it cannot be demonstrated that magnetic effects are within the required limits, a</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	<p>MCA requirement cannot be met, a post installation actual electromagnetic compass deviation survey should be conducted for the cable in areas where compliance has not been achieved.</p> <p>The applicant has confirmed that the compass deviation effects will be minimised through cable design and burial, and separation distance between the two trenches. A compass deviation assessment will be undertaken post-consent, once the detailed design and cable configuration is available, to confirm interference with magnetic position fixing equipment is within acceptable limits. If it cannot be demonstrated that MCA deviation requirements can be met pre-construction, a post-construction compass deviation survey of the 'as laid' Offshore Cable Corridor will be undertaken.</p> <p>The MCA will therefore expect a condition of consent to ensure confirmation is provided for the compass deviation which details the arrangements for the bundling etc. and confirms that the magnetic effects will be within our required limits. If this then can't be achieved, a compass deviation assessment post lay would be required and included as a condition of consent.</p>	<p>post lay compass deviation assessment will be carried out. This will be included as a consent condition.</p> <p>A review of the impacts associated with electromagnetic interference with compasses is presented in section 9. Due to the bundling of the cables, and the distance between the cables and vessels, there are not anticipated to be any effects on compass deviation. When final design engineering is complete, if it cannot be demonstrated that magnetic effects are within the required limits, a post lay compass deviation assessment will be carried out. This will be included as a consent condition.</p>
Trinity House	<p>Trinity House welcome the continued engagement and the meeting held on 10th June 2024.</p> <p>Trinity House require continued engagement with the project and have particular concerns over areas where the navigable depth of water will be reduced by more than 5% as per the MCA guidelines.</p> <p>In order to assess any impact on Trinity House aids to navigation in the vicinity of the project could we please be provided with relevant shape files showing the cable corridor.</p>	<p>It is noted within the mitigation measures listed in section 11.2 that should any areas of external cable protection reduce water depth by more than 5%, consultation will be carried out with the MCA and Trinity House, and detailed assessment carried out.</p> <p>The Offshore Cable Corridor shapefile and NRA will be provided to Trinity House following submission of the application.</p>

Consultee	Issue Raised	How and Where Considered in the NRA
	We would also like to be sent the Navigational Risk Assessment when it is produced.	

8.3 Further Consultation

Prior to the submission of the Scoping Report, introductory consultation meetings were held in December 2023. Further consultation meetings were then held in June and July 2024, including meetings with the following:

- MCA;
- Trinity House;
- UK Chamber of Shipping;
- RYA;
- Cruising Association;
- Port of Bideford and Taw and Torridge Pilotage District;
- DFDS Ferries;
- Lundy Company Ltd; and
- MOD Defence Infrastructure Organisation (DIO).

In addition, feedback was gathered via email correspondence with the following:

- Brittany Ferries;
- Irish Ferries; and
- Stena Line.

The key points raised in consultation is presented in **Table 8.3**.

Table 8.3 Summary of Consultation Undertaken

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
December 2023	MCA - Consultation Meeting	MCA queried if there were plans for cable protection as opposed to burial.	Proposed protection is outlined in section 2.2.2 . Impact of reduction in under keel clearance due to external protection is assessed section 11 .
		MCA noted that the RYA Coastal Atlas may be a useful resource, that liaison with local ports may be required and that locations of renewables projects in the area should be considered.	Liaison with local ports to be undertaken via Notice to Mariners (NtM) (section 11.2). Locations of renewables projects presented in baseline (and considered elsewhere in this ES e.g. Volume 3, Chapter 6: Other Marine Users; Volume 1, Appendix 5.3: Cumulative Effects Assessment Screening Matrix. The RYA Coastal Atlas has been used to inform on recreational activities discussed in section 9.4.3 .
		MCA noted the importance of considering IMO Routing Measures in the area within the risk mitigation procedures for the project vessels, and that considering the impact on these when determining vessel timings and lighting of construction vessels would be an important mitigation.	To be considered in Vessel Management Plan as part of the final offshore Construction Environmental Management Plan (CEMP) (section 11.2).
		MCA noted that the 5% rule on water depth reduction should be followed, and that the MCA would expect to see electromagnetic interference considered, dependent on the findings of the electromagnetic deviation support document.	Included in mitigation measures (section 11.2) and within impact assessment (section 11).

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
December 2023	Trinity House - Consultation Meeting	Trinity House noted that reductions of water depth were a primary concern for Trinity House, as were cables becoming exposed due to the seabed movements.	Reduction in water depth assessed in section 11 . Monitoring of cable protection included in mitigation measures (section 11.2).
		Trinity House noted that there would be no expectation to mark the landfall physically in the interests of security, but that cable routes should be charted.	Charting of cable included as mitigation measure (section 11.2).
		Trinity House noted the military exercise areas in the area and added that there is a naval training centre nearby. Anatec noted that consultation with the Ministry of Defence would be undertaken by the Project.	Consultation with the DIO and MoD was carried out and is summarised in Table 8.3 .
June 2024	MCA – Consultation Meeting	The MCA noted that they were content that individual consultation with stakeholders was sufficient in place of a hazard workshop, if all relevant stakeholders were consulted, including the MOD, local ports and harbours and ferry operators.	Extensive stakeholder consultation has been carried out, including discussions with national stakeholders, the Port of Bideford, operators of ferries identified in proximity to the Offshore Cable Corridor and the MOD, and is summarised in section 8 .
		The MCA noted the presence of a wreck within the Offshore Cable Corridor and indicated that if this was a protected wreck, the Receiver of Wreck would need to be notified.	There are no protected wrecks within the Offshore Cable Corridor.
		The MCA noted that the final NRA should include a summary of consultation, a hazard log and a completed MGN checklist.	A hazard log and MGN checklist have been prepared and are included in Appendix A and Appendix B of this NRA, respectively. A summary of consultation is also included.

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
		MCA noted that the 5% rule on water depth reduction should be followed, and that the MCA would expect to see electromagnetic interference considered, dependent on the findings of the electromagnetic deviation support document.	Included in mitigation measures (section 11.2) and within impact assessment (section 11).
June 2024	Trinity House – Consultation Meeting	Trinity House noted that the data sources were considered suitably comprehensive to inform the assessment, and that the environmental baseline was consistent with what was expected in the area.	No further action.
		Trinity House noted that there were often cases of dropped objects off the southwest off England, with vessels rolling significantly as they navigate around Land's End.	Noted in the summary of historical incident data in section 7 .
		Trinity House noted that any reductions in water depth would be the main concern, particularly around the landfall and the HDD exit point. Trinity House noted that temporary marking may be required if HDD outfalls were left in place for extended periods during construction.	The impact of reduced under keel clearance for vessels (including around the HDD and landfall) is considered within the impact assessment within section 11 . It is not anticipated that any external protection is required within Bideford Bay, where water depth reduction would have been most likely to cause an impact.
June 2024	Cruising Association – Consultation Meeting	The Cruising Association indicated that the southwest coast was not as busy for recreational activity as the south coast, with traffic mainly inshore of the TSS lanes around the Isles of Scilly.	Noted in the discussion of recreational vessels presented in section 9.4.3 .

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
		The Cruising Association raised no concerns over the data sources proposed to inform the assessment.	No further action.
		The Cruising Association indicated that cable laying was not considered a significant risk to recreational users given that they should have watchkeeping in place, and any impacts could be managed through standard mitigation measures such as vessels displaying marks and, lights, guard vessels and circulation of information about the works.	Mitigation measures are presented section 11.2 and include the use of guard vessels and the displaying of appropriate marks and lights by project vessels, and circulation of information about the works.
June 2024	Port of Bideford and Taw and Torridge Pilotage District – Consultation Meeting	The Bideford harbour master, Taw and Torridge District pilot and Competent Harbour Authority representative indicated that there were no concerns over the project and that it was not considered to increase navigational risk in the area, given the distance from the Offshore Cable Corridor to the pilot boarding location.	No further action.
		It was noted that non-AIS fishing and recreational vessels typically remain within the Taw Torridge Estuary and do not cross the Bideford Bar into the wider bay.	Noted within the discussion of recreational vessels in section 9.4.3 .
June 2024	Stena Line – Email Correspondence	Notification of regular ferries in advance of the cable construction beginning should be provided, informing vessels	Ferry operators will be included in the distribution list for Notices to Mariners, as noted in the mitigation measures presented in section 11.2 .

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
		of details of the operation and any recommended minimum passing distances.	
June 2024	RYA – Consultation Meeting	The RYA indicated that recreational vessels further offshore would typically use AIS, while those in inshore areas may not.	Recreational vessel activity is summarised in section 9.4.3 , with reference to the RYA Coastal Atlas. It is noted that recreational vessels, particularly in nearshore areas, may be under-represented on AIS.
		The RYA indicated that if typical mitigation measures such as communications and use of AIS and radar by project vessels were in place, then there would be no major concern over impact on recreational users in the area.	Mitigation measures, including promulgation of information and the compliance with SOLAS, which requires the use of marine radar, are presented in section 11.2 . Project vessels will also be equipped with AIS to increase awareness for other nearby vessels.
		It was noted that any water depth reductions in proximity to the landfall may also have an impact on recreational users.	The impact of reduced under keel clearance for vessels (including recreational vessels) is considered within the impact assessment within section 11 . It is not anticipated that any external cable protection is required within Bideford Bay, where water depth reduction would have been most likely to cause an impact.
June 2024	UK Chamber of Shipping – Consultation Meeting	The Chamber noted that it would be useful to present active and transiting fishing vessel activity separately.	Fishing vessel activity is summarised in section 9.4.4 , with active fishing presented separately to transiting fishing vessels in Figure 9.13 .

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
June 2024	MCA – Consultation Meeting	<p>The MCA noted that given construction works were to take place on a 24/7 basis, promulgation of information would be important.</p>	<p>Promulgation of information is considered a key mitigation measure and is included in section 11.2.</p>
		<p>The MCA noted that documentation confirming the compass deviation effects from the cable would be required to confirm that the effects are within the MCA's limits. If this cannot be demonstrated then a post-lay compass deviation assessment would be required as a condition of consent.</p>	<p>A review of the impacts associated with electromagnetic interference with compasses is presented in section 10. Due to the bundling of the cables, and the distance between the cables and vessels, there are not anticipated to be any effects on compass deviation.</p> <p>When final design engineering is complete, if it cannot be demonstrated that magnetic effects are within the required limits, a post lay compass deviation assessment will be carried out. This will be included as a consent condition.</p>
		<p>It was noted that water depth reductions relating to the HDD works would be of interest.</p>	<p>Reduction in under keel clearance, including due to HDD works at the landfall, is considered within the impact assessment in section 11.</p>
June 2024	Lundy Company Ltd – Consultation Meeting	<p>It was noted that there are 100-120 ferry sailings to Lundy from Bideford and Ilfracombe, with sailings from Ilfracombe more common due to tidal restrictions at Bideford.</p>	<p>Passenger ferries are discussed in the baseline environment presented in section 9.4.2, with detail on the Lundy ferry included.</p>
		<p>Given the distance from the Offshore Cable Corridor to the Marine Protected Area around Lundy, this was not considered a concern.</p>	<p>No further action.</p>

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
June 2024	DFDS – Consultation Meeting	DFDS noted that ferries were familiar with navigating around RAM vessels, and did not anticipate any issues with the project.	Noted in the discussion of the impact on vessel routeing/timetables in section 11 .
		DFDS noted that targeted consultation in place of a hazard workshop was reasonable.	Targeted consultation has been carried out and summarised in section 8 .
		DFDS asked if local NtMs would be issued and requested that they be placed on the distribution list for notices around works.	Ferry operators will be included in the distribution list for Notices to Mariners, as noted in the mitigation measures presented in section 11.2 .
June 2024	Irish Ferries – Email Correspondence	Irish Ferries offered no feedback, but noted that it would be useful to be kept informed on the development.	Ferry operators will be included in the distribution list for Notices to Mariners, as noted in the mitigation measures presented in section 11.2 .
June 2024	Defence Infrastructure Organisation, Ministry of Defence – Consultation Meeting	<p>The MOD presented additional information on activities in proximity to the Offshore Cable Corridor:</p> <ul style="list-style-type: none"> ▪ D001 is a Navy air to surface area, 5nm from the Offshore Cable Corridor ▪ The areas within Bideford Bay are army training areas ▪ D064A is a Navy air activity area, where there may be aircraft carriers present but no other surface activity ▪ The Fleet Operation Southern Training (FOST) area is used for navigation and submarine activity, and covers the southern part of the Offshore Cable Corridor 	Information on the military exercise areas is reflected in the description of navigational features presented in section 6.5 .

Date	Consultee and type of response	Issues raised	How and where considered in the NRA
		<p>It was also noted that no further mitigation measures would be required if the footprint of these areas were avoided.</p>	
		<p>It was noted that communication protocols with the Operator of the Range may be required, should guard vessels encroach the firing practice areas near the landfall.</p>	<p>It is not anticipated that guard vessels will encroach the firing ranges, however liaison with the MOD is included as a mitigation measure in section 11.2.</p>
		<p>MOD requested details of locations where external protection may be required when available, as well as locations of cable crossings. It was also noted that the MOD may ask for a requirement in the DCO or deemed Marine Licence that the final design of the Proposed Development is provided, including the locations and design of any external protection, and post-installation survey data.</p>	<p>Liaison with the MOD and provision of required data is included as a mitigation measure, listed in section 11.2.</p>
<p>July 2024</p>	<p>Brittany Ferries – Email Correspondence</p>	<p>Brittany Ferries noted that the Roscoff-Cork and Bilbao-Rosslare routes had the potential to be affected by the development, but that no re-routeing was currently expected. Brittany Ferries requested to be kept informed on the development.</p>	<p>Ferry operators will be included in the distribution list for Notices to Mariners, as noted in the mitigation measures presented in section 11.2.</p>