



Celtic Interconnector

Volume 4

UK Environmental Report - Appendices

June 2021



Le réseau
de transport
d'électricité



Co-financed by the European Union
Connecting Europe Facility



The Oval, 160 Shelbourne Road, Ballsbridge, Dublin D04 FW28
Telephone: 01 677 1700 • www.eirgrid.ie

Volume 4 – UK Environmental Report Appendices

Volume 4 Appendix 5A - Construction and Environmental Management Plan

Volume 4 Appendix 16A - Marine Archaeology and Cultural Heritage Technical Report

Volume 4 Appendix 16B - Geoarchaeological Assessment

Volume 4 Appendix 16C - Marine Archaeology Written Scheme of Investigation

Volume 4 Appendix 19A - Shipping and Fishing Cable Risk Assessment



Celtic Interconnector

Volume 4 – Appendix 5A

Construction and Environmental Management Plan

June 2021



Co-financed by the European Union
Connecting Europe Facility



The Oval, 160 Shelbourne Road, Ballsbridge, Dublin D04 FW28
Telephone: 01 677 1700 • www.eirgrid.ie

Table of Contents

1	Introduction	3
1.1	General.....	3
1.2	Overall Celtic Interconnector Project.....	4
1.3	Overview of the Proposed Development.....	7
1.4	Objectives of the CEMP.....	7
1.5	Structure and content of the CEMP	7
1.6	Conformance with the Environmental Statement	9
2	Description of the Offshore Development.....	10
2.1	Introduction.....	10
2.2	Submarine Cable.....	11
2.3	Cable Route	11
2.3.1	UK Territorial Waters	11
2.3.2	UK Exclusive Economic Zone.....	11
2.4	Proposed Construction Schedule and Timing of Works	12
3	Project Team.....	13
3.1	Roles and Responsibilities.....	13
3.1.1	Contractors	13
3.1.2	Contractor Project Director	13
3.1.3	Contractor Environmental Manager	14
3.1.4	Environmental Advisor	14
3.1.5	Environmental Specialists.....	15
3.1.6	Engineering Manager	15
3.1.7	Community and Stakeholder Liaison Officer	15
3.1.8	Site Health and Safety Advisor	16
4	General Environmental Requirements.....	17
4.1	Introduction.....	17
4.2	Method Statements	17
4.3	Audit and Inspections	18
4.4	Reporting.....	18
5	Competence, Training, and Awareness.....	20
5.1.1	Toolbox Talks	20
5.2	Communications.....	21
5.2.1	Internal Communication	21
5.2.2	External Communication.....	21
5.2.3	Community and Stakeholder Relations	22
5.2.4	Complaints Procedure	22
5.3	Environmental Incident Procedure.....	22
5.3.1	Pollution Incident Control Plan	23
5.3.2	Dropped Objects.....	23
5.4	Health and Safety	23

5.5	Construction Hours	24
5.6	Construction Site Layout and Appearance.....	24
5.7	Waste Management.....	25
5.8	Security	26
5.9	Welfare.....	26
5.10	Biosecurity.....	26
5.11	Unexploded Ordnance.....	26
5.12	Consents and Licences	27
6	Environmental Control Measures	28
6.1	Introduction.....	28

1 Introduction

1.1 General

This Construction Environmental Management Plan (CEMP) supports the application for development consent for the UK offshore elements of the Celtic Interconnector Project (the Proposed Development). The overall Celtic Interconnector Project is an electrical interconnection between Ireland and France to allow the exchange of electricity between the two countries. The Proposed Development is being jointly developed by EirGrid (the electricity Transmission System Operator (TSO) in Ireland, and its French counterpart), and Réseau de Transport d'Électricité (RTE) (hereafter referred to as 'the Applicant').

The Celtic Interconnector Project is, by its nature, multi-jurisdictional, and is being jointly developed by the two TSOs of Ireland and France. As will be specified later under Roles and Responsibilities (Section 3.1), the environmental manager delivering the Proposed Development will coordinate regularly with the corresponding staff delivering other elements of the Celtic Interconnector Project (Ireland onshore, and Ireland offshore).

In addition, while not occurring within UK territory, it will be located, in part, within the UK Exclusive Economic Zone (EEZ). An Environmental Report (ER) has been prepared to accompany a Marine Licence application to the Marine Management Organisation (MMO) for the installation of external rock protection section of the subsea cable and associated external cable protection within the UK EEZ. A separate, though integrated, Environmental Impact Assessment Report (EIAR) has been prepared to accompany an application for statutory approval to An Bord Pleanála (ABP) for the Ireland Onshore element and another to the Department of Housing, Local Government, and Heritage (DHLGH) for the Foreshore element of the overall Celtic Interconnector project.

The ER has been prepared having regard for relevant guidelines, including:

- The Marine and Coastal Access Act 2009;
- The EIA Directive;
- Habitats Directive and Wild Birds Directive;
- Marine Strategy Framework Directive;
- Water Framework Directive;
- Shellfish Waters Directive; and
- Draft South West Marine Plan.

The environmental management of the construction works for the Proposed Development shall be delivered via the implementation of this CEMP. It outlines the environmental procedures that require consideration throughout the construction process in accordance

with legislative requirements and construction industry best practice guidance. It aims to ensure that the adverse effects from the construction phase of the Proposed Development, on the environment and local communities, are minimised, as per the measures prescribed in the ER for the Proposed Development.

The CEMP will be implemented by the Applicant and secured through the conditions of the Marine Licence application. Revisions to this CEMP may be undertaken during the determination period of the Marine Licence application in agreement with the appointed contractors and the relevant authorities.

The appointed contractor(s) shall be responsible for safeguarding the environment and for mitigating the effects of the construction works by implementing general environmental requirements of the CEMP. The Project Promoters will ensure that the contractor(s) complies with the CEMP via contractual arrangements.

1.2 Overall Celtic Interconnector Project

The Celtic Interconnector is primarily a subsea link that will enable the exchange of electricity between the electricity transmission grids in Ireland and France. The link will have the capacity to carry up to 700 MW of electrical energy between the two systems. The connection will link an existing electricity transmission substation located in Knockraha in east Cork, Ireland, with a substation in La Martyre in Brittany, France.

The transmission grids in both Ireland and France are operated at High Voltage Alternating Current (HVAC). High Voltage Direct Current (HVDC) is used for the transmission of electrical power over large distances where HVAC is not technically or economically feasible. Converter stations are therefore required in both France and Ireland to convert the HVDC power to HVAC.

Designated as a Project of Common Interest (PCI) by the European Union, the Celtic Interconnector project responds to European challenges regarding energy transition and addresses climate change by facilitating progress towards a low-carbon electricity mix. It will contribute to more secure, more sustainable, and better priced electricity.

The main elements of the overall Celtic Interconnector project are:

- A High Voltage Direct Current (HVDC) submarine cable of approximately 500 km in length laid between the coast in Brittany France, and the Cork coast in Ireland. The submarine cable will be either buried beneath the seabed or laid on the seabed and covered for protection;
- A landfall location in Ireland and France, where the HVDC submarine circuit will come onshore and terminate at a Transition Joint Bay (TJB);
- A HVDC underground cable (UGC) in both countries between the landfall location and a converter station compound;

- A converter station in both countries to convert the electricity from HVDC to High Voltage Alternating Current (HVAC) and vice versa;
- A HVAC UGC in both countries between the converter station compound and the connection point to the National Grid;
- A connection to the National Grid; and,
- A fibre optic link, with associated power supply, will also be laid along the route for operational control, communication, and telemetry purposes.

The key elements of the project are illustrated in Figure 1.1 and Figure 1.2.

Figure 1.1 Celtic Interconnector (Project Overview)

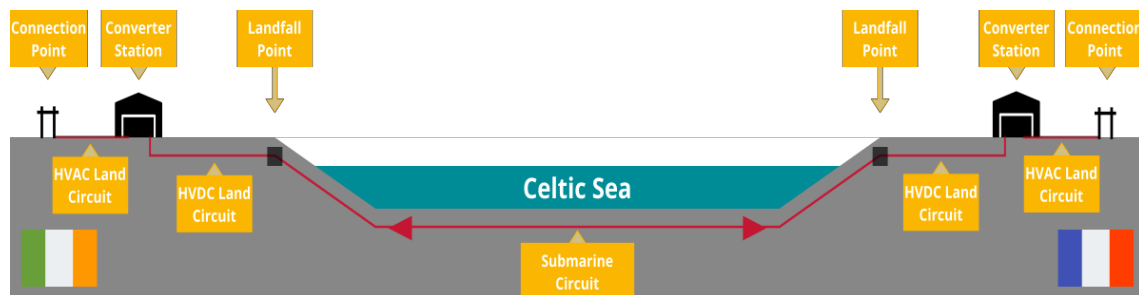
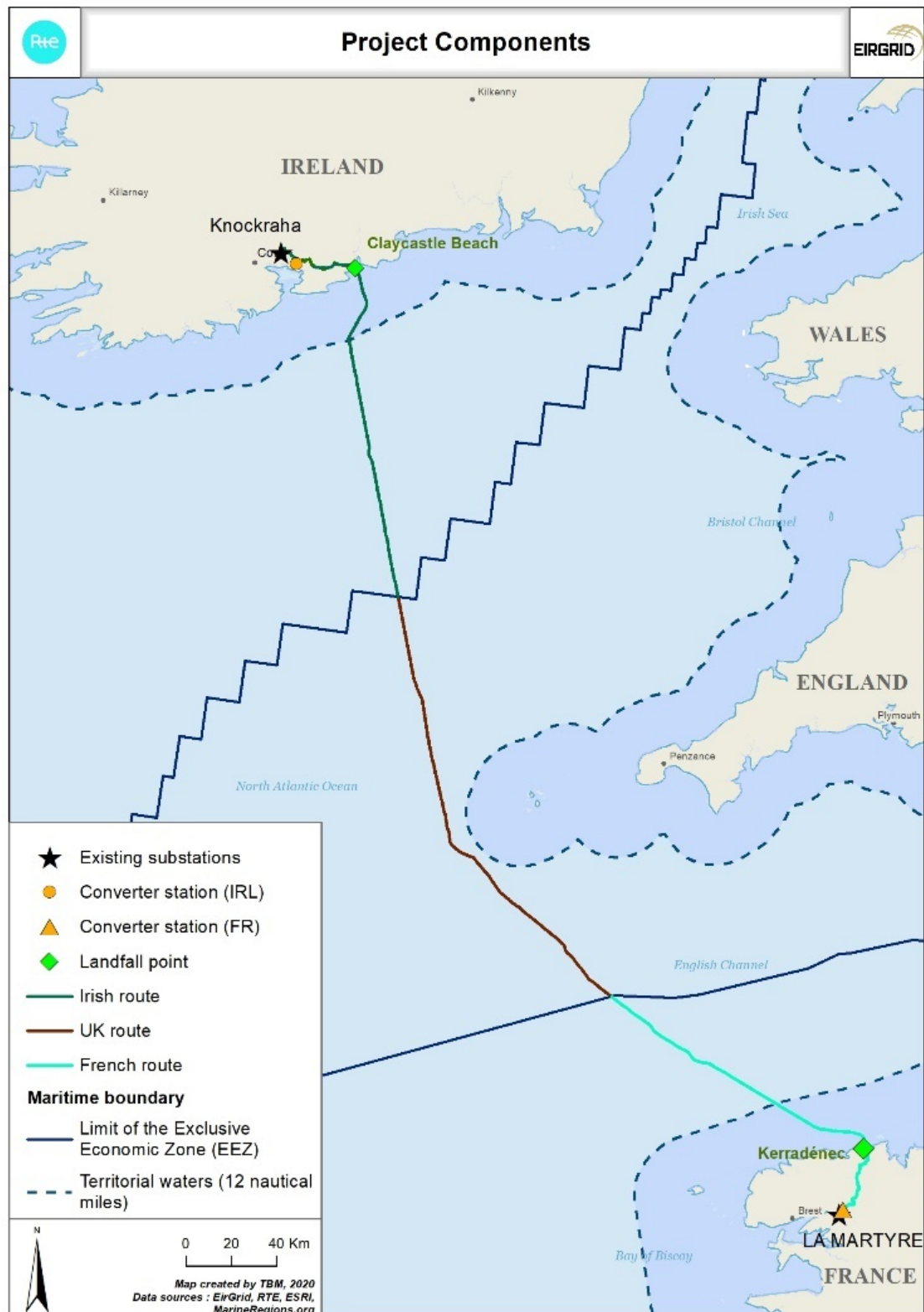


Figure 1.2 The route of the Celtic Interconnector project

1.3 Overview of the Proposed Development

This CEMP relates to the Proposed Development (i.e. in Ireland Offshore), summarised in Section 2 of this CEMP.

A more detailed description of the Proposed Development is provided in Volume 4 of the ER (see Chapter 5: Project Description).

1.4 Objectives of the CEMP

This CEMP provides an overarching framework for the environmental management procedure during the construction phase of the Proposed Development.

The objectives of the CEMP are as follows:

- To provide a mechanism for ensuring the delivery of environmental measures (other than those which will be secured through specific conditions of the application), to avoid, reduce or compensate for environmental effects identified in the ER;
- To provide an outline of the content that will be supplied in the detailed plans and schemes prior to construction of the relevant stage of works;
- To ensure compliance with legislation and identify where it will be necessary to obtain authorisation from relevant statutory bodies;
- To provide a framework for compliance auditing and inspection to ensure the agreed environmental aims are being met; and
- To ensure a prompt response to any non-compliance with legislative and ER. Requirements, including reporting, remediation and any additional mitigation measures required to prevent a recurrence.

1.5 Structure and content of the CEMP

The remainder of this CEMP is split into four further chapters:

- Chapter 2 describes the Proposed Development construction;
- Chapter 3 describes the roles and responsibilities of those on site;
- Chapter 4 describes the general environmental requirements that will be adopted for the Proposed Development. The general site operations cover the following elements:
 - Method Statements;
 - Audit and Inspections;
 - Competence, Training, and Awareness;
 - Communications;

-
- Environmental Incident Procedure;
 - Health and Safety;
 - Construction Hours;
 - Construction Site Layout and Appearance;
 - Waste Management;
 - Security;
 - Welfare;
 - Biosecurity;
 - Unexploded Ordnance; and
 - Consents and Licences.
- Chapter 5 describes the environmental measures that will be adopted during the construction of the Proposed Development in accordance with the ER. The environmental measures will be implemented to avoid, reduce, or compensate for effects on receptors identified in the following environmental topics:
 - Population and Human Health;
 - Air Quality and Climate;
 - Marine Sediments Quality;
 - Marine Physical Processes;
 - Marine Water Quality;
 - Biodiversity;
 - Seascape and Landscape;
 - Archaeology and Cultural Heritage;
 - Material Assets;
 - Noise and Vibration;
 - Shipping and Navigation;
 - Commercial Fisheries; and
 - Major Accidents and Disasters.

This document is classified as a 'live document' and as such is required to be updated by the Contractor prior to the commencement of any construction related works or activities. An example CEMP Review Table is located within Appendix A of this report. Updates will take account of the following aspects:

-
- Changes to the design;
 - Changes to external factors, including legislation;
 - Unforeseen circumstances;
 - Results from external audits and inspections; and
 - Learning points from environmental near misses and incidents.

1.6 Conformance with the Environmental Statement

An ER has been undertaken for the Proposed Development. The ER has been prepared in accordance with The Marine Works (Environmental Impact Assessment) Regulations 2007, as amended by the Marine Works (Environmental Impact Assessment) Regulations 2017 ('the 2017 Marine Works Regulations'). The ER includes assessments of the likely significant effects on the environment that are likely to be caused during the construction and operation phases of the Proposed Development.

This CEMP has been prepared in accordance with the environmental measures identified in the ER (Chapters 9 - 21) and supporting documentation to avoid, reduce or compensate for the adverse effects of the Proposed Development on the environment during construction.

2 Description of the Offshore Development

2.1 Introduction

A brief overview of the Proposed Development is provided below. The detailed description of the Proposed Development is provided in ER Volume 4 Chapter 5: Project Description.

The Celtic Interconnector is a joint project being developed by EirGrid, the electricity Transmission System Operator (TSO) in Ireland, and its French counterpart, RTE (Réseau de Transport d'Électricité) and is being supported by the European Union's Connecting Europe Facility (CEF). It is also a European Union PCI, first designated in 2013 and renewed every two years since, and a designated e-Highway 2050 project.

The project involves the construction of an electrical circuit between Ireland and France using HVDC technology, the global standard for the transfer of electricity over long distances using underground technology. The interconnector would have a capacity of 700 MW (equivalent to the power used by approximately 450,000 homes) and measures approximately 575km in length. The longest spatial element of the Celtic Interconnector would be the submarine circuit which would measure approximately 497km out of the total 575km. The interconnector would form a link between County Cork on the south coast of Ireland and the coast of Brittany in North West France (Nord-Finistère).

The main elements of the interconnector consist of:

- A submarine circuit, approximately 497km in length placed on or beneath the seabed between France and Ireland. The submarine circuit will pass through the territorial waters of Ireland and France and through the Exclusive Economic Zones (EEZs) of Ireland, the UK and France, as shown in Figure 1.2.
- The cable route within the UK EEZ is approximately 211km long. It passes approximately 30km to the west of the Isles of Scilly and approximately 75km to the west of Land's End on the UK mainland.
- The cable route does not enter the Territorial Waters of the UK.
- Landfall points in France and Ireland where the submarine circuit comes onshore, with associated onshore infrastructure, and connection points to an existing substation on the transmission grids of France and Ireland. NB: These elements are noted here for context but are not considered further in this Report.
- A fibre optic link would also be laid along the entire cable route for operational control, communication, and telemetry purposes.

This project description focuses on the section of the Project within the UK EEZ, and specifically on the installation of cable protection as this is the activity that requires a Marine Licence.

Detailed descriptions of the Project's route in Irish and French waters, and the associated onshore elements, can be found in the Joint Environmental Report covering the project in all three jurisdictions, accompanying the ER.

A burial assessment study (BAS) has been completed for the Project in accordance with the industry guidance recommendations provided in the UK Carbon Trust's Cable Burial Risk Assessment (CBRA). This study identified the target depths of lowering (DOL) of the cable into the seabed along the cable route. The target DOL will vary depending upon seabed geology and also with the variable risk profile that exists from anchor penetration and fishing gear, etc.

2.2 Submarine Cable

The Celtic Interconnector project within the UK EEZ almost entirely comprises the laying of a submarine cable package. The submarine package is comprised of a pair of electrical cables as well as a fibre optic link. The purpose of the fibre optic link is to enable communication and operational control between both converter stations – one in Ireland and one in France. It is anticipated that each electrical cable will have a diameter of between 100mm and 200mm and the fibre optic link will have a dimension of approximately 20mm.

Each electrical cable will use HVDC technology between the two converter stations. HVDC is the global standard for the transfer of electricity over long distances. The submarine cables will be comprised of a number of elements including a central metallic conductor made of copper or aluminium that is surrounded by insulation. A lead alloy sheath will be located outside of the insulation layer; this in turn will be surrounded by armouring that is made of galvanised steel wires. This will all be contained within an external protection layer. The operational life of the electrical cables is expected to be at least 40 years.

2.3 Cable Route

2.3.1 UK Territorial Waters

The cable route does not enter the Territorial Waters of the UK.

2.3.2 UK Exclusive Economic Zone

The cable route through the UK EEZ is approximately 211km in length. The offshore works involve a number of vessels (survey vessels, cable lay vessels and support vessels). The installation of the submarine cable will follow the general sequence below:

- Contractor survey, route engineering and finalisation;
- Unexploded Ordnance (UXO) intervention campaign;
- Boulder clearance;
- Pre-lay grapnel runs;
- Construction of infrastructure crossings;

-
- Pre-lay route survey;
 - Cable lay;
 - Post-lay survey;
 - Cable burial;
 - External / Secondary protection; and
 - Post-burial survey.

The footprint of the cable installation on the seabed is anticipated to be approximately 5.0m wide. However, this may increase to approximately 15.0m during seabed preparation and cable installation works due to the size of the equipment deployed for these activities (i.e. boulder / cable plough, mechanical trencher, etc.). It is anticipated that seabed preparation activities will be completed in the weeks or months prior to the main cable installation works and will involve boulder clearance and potential for sand wave sweeping along some sections of the cable route.

2.4 Proposed Construction Schedule and Timing of Works

Subject to the grant of statutory approvals, it is programmed that installation of the offshore route will commence in 2024, for it to become fully operational by 2027.

The offshore works involve a number of vessels and activities as discussed in ER Volume 4 Chapter 5: Project Description. The first activity will be the pre-lay survey expected to last 40 days in UK EEZ and be performed well in advance of the main construction activity.

The main construction activity shall entail initial preparatory works which shall be carried out in advance of cable lay for approximately 40 days in the UK EEZ.

Offshore cable installation is envisaged using standard burial tools (plough or a mechanical trenching tool). There is approximately 120km of the marine route in the UK EEZ that has more challenging strata, consisting of underling chalk. Sections of this route may pose a challenge to cable burial using standard burial tools and may require the use of specialist rock cutting tools for trenching. The overall schedule for cable lay and burial in UK EEZ excluding weather or mechanical damage stand by is 139 days.

A rock placement vessel, only if required in the UK EEZ, will follow cable installation, and be required in UK EEZ for up to approximately 50 days.

The durations of the works provided are indicative only and based on 24/7 operations, and will be subject to relevant approvals, safety requirements for the installation operations / procedures, and weather conditions.

3 Project Team

3.1 Roles and Responsibilities

Establishing roles and responsibilities on site is important to ensure the successful construction of the Proposed Development, including the implementation of the CEMP.

3.1.1 Contractors

The contractors will be responsible for implementing the CEMP through contractual agreements with the Applicant.

Prior to each stage of construction commencing, the contractors will prepare or update the management plans required within the CEMP.

The contractors will prepare and update the site Safety Health and Environment (SHE) Plan, which details relevant safety, health, and environmental information relating to all land within the construction site.

The contractors will prepare a list of Contractors Proposals, which will detail all of the environmental mitigation measures for each stage of the works that will be implemented. The Contractors Proposals will be in accordance with the CEMP.

The plans will be made available to all persons working on the Proposed Development.

Environmental issues that arise during the construction of the Proposed Development will be reviewed at the inaugural and subsequent regular meetings held by the contractors. Daily toolbox talks will be held by the contractors to inform the construction staff of any environmental issues and any changes to the CEMP, Contractors Proposals, and/or the SHE Plan.

The Applicant and the contractors will ensure that all staff, including sub-contractors are trained and competent in the management of environmental impacts to a level that is appropriate to their role.

3.1.2 Contractor Project Director

It is to be the responsibility of the Contractor Project Director (CPD) to ensure that adequate resources are made available to the Project Team so that the environmental policy is effectively implemented during the construction phase. The CPD will sign the Policy Statement confirming the commitment of the Project Team to ensure that all environmental aspects are managed in accordance with relevant legislative and contractual requirements, and environmental commitments detailed in the CEMP.

3.1.3 Contractor Environmental Manager

The Contractor Environmental Manager (CEM) is responsible for ensuring all environmental standards and commitments are adhered to throughout the construction design, implementation, maintenance, and monitoring periods of the scheme.

The CEM will also be responsible for the following:

- Developing and reviewing the CEMP and specialist procedures;
- Leading the appointment and management of environmental specialists at the construction stage;
- Facilitating environmental training and inductions to the workforce, as required;
- Communicate sustainability good practice, innovation and targets to the project team and supply chain;
- Keep a record of key performance indicators ('KPIs');
- Monitoring compliance of construction activities with the CEMP / environmental legislation and licences;
- Acting as the focal point of contact for all environmental issues on site;
- Convening and chairing environmental team meetings and meetings of external consultees;
- Providing such advice as is required by the CPD on environmental issues; and
- Coordinating regularly with the Environmental Clerk of Works (EnCoW) implementing the CEMP for the onshore Ireland elements of the Celtic Interconnector Project, and the corresponding CEM delivering the CEMP in French waters. Unless otherwise agreed between the EnCoW, CEMs the competent authorities, or other relevant stakeholders, coordination will be required at least weekly (but daily where UK offshore works are being undertaken concurrently with other parts of the project). The CEM will be available to attend joint meetings with EnCoW and/or other CEM(s), if requested by competent authorities, or other stakeholders relevant to timely and effective delivery of the CEMP.

The CEM will also record and report on all environmental activities on the project. They will monitor and supervise construction activities where appropriate, maintain auditable environmental records and conduct audits as required by the CEMP and offer full time presence on site throughout the construction period.

3.1.4 Environmental Advisor

The Environmental Advisor (EA) will be responsible for taking the scheme through the environmental aspects of the statutory process and aid the development of the CEMP in

liaison with the specialist advisors. The EA will provide advice and assistance as necessary throughout the construction process.

3.1.5 Environmental Specialists

A team of experts will be employed and utilised to support the Project Team on specific issues as and when required. They will undertake pre-construction surveys and watching briefs, and oversee implementation, maintenance, and monitoring throughout the contract period.

Marine mammal observers (MMOs) will be present on the geophysical survey vessels in UK waters. Throughout all works, suitably qualified MMOs will follow JNCC's 'Guidelines for minimising the risk of injury to marine mammals from geophysical surveys' (JNCC, 2017) and the 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (JNCC, 2010), and , recording continuously as appropriate.

The role of an MMO is to monitor for the presence of marine mammals, and where noise-generating works are being completed (for example geophysical surveys), that direct and indirect impact risks (mortality, hearing loss and/or disturbance) are mitigated and operations are controlled when animals come within close proximity prior to the sound source being generated e.g. 500-1,000m.

Whilst focusing on marine mammals, the survey methodology dictates that surveyors are also instructed to record any sightings of marine reptiles.

3.1.6 Engineering Manager

The Engineering Manager is responsible for ensuring the environmental issues and constraints are included in individual designs, in accordance with environmental design procedures.

3.1.7 Community and Stakeholder Liaison Officer

The primary role of the Community and Stakeholder Liaison Officer is conducting all public liaison associated with the construction phase of the Proposed Development.

The responsibilities and duties of the Community and Stakeholder Liaison Officer include the following:

- Disseminating the construction programme to all relevant parties, including, for example any work generating high levels of noise;
- Acting as first point of contact for members of the public;
- Ensure that all local residents and stakeholders are kept informed of progress and key issues;
- Maintaining a register of queries and complaints from the public which will inform the day to day construction activities;

- Responding to queries, responding to complaints, and resolving concerns in addition to informing the project manager as and when complaints are received; and
- Production of newsletters / bulletins / social media upon a regular basis to raise awareness of current issues both within the project team and throughout the local community.

3.1.8 Site Health and Safety Advisor

The Site Health and Safety Advisor's main aim is to prevent accident, injuries, and work-related illnesses on site. They shall implement health and safety policies in accordance with the latest legislation, guidance, and codes of practice.

They will be responsible for the following tasks and responsibilities:

- Take overall responsibility for compliance with all health and safety requirements at the site and for achieving the required levels of health and safety performance;
- Take responsibility for implementation and management of emergency response procedures, while ensuring health and safety roles are being enacted in accordance with the requirements of these procedures, and in line with best industry practice;
- Ensure health and safety roles are provided with suitable environmental awareness training and provision of any specialist environmental training required generally to carry out their roles;
- Ensuring work is undertaken in a safe manner and machinery is used in accordance with manufactures guidance;
- Ensuring that the contractor and their associated employees work in accordance with approved risk assessments;
- Undertake regular (e.g. daily) checks to ensure that the site is tidy and secure;
- Provide health and safety toolbox talks to site employees upon a regular basis (e.g. weekly);
- Reviewing implemented health and safety procedures and where appropriate amending procedures. These reviews will be recorded; and
- Reporting and recording any incidents or near misses.

4 General Environmental Requirements

4.1 Introduction

This chapter of the CEMP provides an overview of the general environmental requirements that will be implemented during the construction of the Proposed Development to avoid, reduce, or compensate for adverse effects.

The CEMP can be updated to provide full details of environmental measures as identified by the contracted environmental specialists primarily having regard to any conditions of the relevant consents.

The Project Promoters will ensure that all sub-contractors adhere to the environmental good practice guidelines for implementation during work activities.

4.2 Method Statements

The implementation of Method Statements for the different activities of the Proposed Development works shall be completed within the relevant contractor(s) by trained staff or other appropriate experienced personnel, in consultation with specialists as required. Their production shall include a review of the environmental / health and safety risks and commitments, so that appropriate control measures are developed and included within the construction process.

Method Statements will be reviewed by the Contractor's Project Manager and, where necessary, by an appropriate environmental specialist. Where appropriate, and if required or necessary, Method Statements will be submitted to the relevant regulatory authorities.

Method Statements must contain as a minimum:

- Location and duration of the activity;
- Work to be undertaken and methods of construction;
- Plant and materials to be used;
- Labour and supervision requirements;
- Health, safety, and environmental considerations (including relevant control measures); and
- Permit or consent requirements.

Deviation from approved Method Statements (where this is a statutory requirement) will be permitted only with prior approval from relevant parties. This will be facilitated by formal review before any deviation is undertaken.

4.3 Audit and Inspections

The Contractor's CEM shall be responsible for updating the CEMP on a regular basis as required.

The contractors will undertake daily inspections, which will include monitoring conformance with the CEMP. Daily assessment forms will be completed during the daily checks. Checks on equipment will be undertaken to reduce the risk of incidents occurring (for example oil leaks). As a minimum, unless otherwise agreed with the MMO or other relevant stakeholders, the following equipment will be inspected:

- Waste storage facilities;
- Sediment management;
- Oil separators;
- Chemical storage facilities;
- Storage vessels (i.e. pumps, gauges, pipework, and hoses);
- Secondary containment (i.e. secondary skins for oil tanks);
- Spill response materials; and
- Equipment with potential to leak oils and other liquids, for example, compressors and transformers.

Sensible monitoring inspections will be undertaken by the Project Promoters and the contractors to ensure the daily checks are being undertaken correctly.

The inspections will also include:

- Reviewing the daily risk assessment forms;
- Ensuring that faults and defects are identified and rectified; and
- Providing data for performance monitoring.

Environmental performance data will be collected and collated into the SHE Plan.

The Contractor's CEM will be delegated sufficient powers under the construction contract so that she / he will be able to instruct the Contractor to stop works and to direct the carrying out of emergency mitigation / clean-up operations.

The Applicant will also have stop works authority, in the event of a non-conformance identified during an external audit.

4.4 Reporting

The Contractor's CEM will be responsible for carrying out regular monitoring of the Contractors CEMP and will report monitoring findings as required by the planning consent. The Contractor's CEM will also report monitoring findings in writing to the Applicant on a

regular basis (at least weekly, but immediately in the case of incidents or accidents).

Contractors shall be responsible for investigating and addressing any non-conformances raised by the CEM within an agreed time frame. The CEM will document in written reports, where additional corrective or preventative actions to those in the EIAR have been implemented

The CEM monitoring reports (and Applicant's audit reports of same) will be made available to statutory and non-statutory bodies on request. Where specific environmental management and reporting is required, it will be set out in the relevant management plans.

Document control shall be in accordance with a Quality Management System and copies of all environmental audit reports, consents and licences shall be maintained by the Contractor's Environmental Manager.

5 Competence, Training, and Awareness

5.1 Introduction

Contractors shall identify the training needs of their employees and subcontractors so that they can implement the requirements of this CEMP (and any agreed updates to same) into briefings and construction method statements.

All personnel will be aware of their general environmental management responsibilities, and for those whose work may cause, or have the potential to cause, a significant impact on the environment, to receive specific environmental awareness briefings. Environmental awareness will be reinforced through information, such as poster campaigns, environmental / sustainability performance indicator reports and environmental alerts.

All contractors are responsible for ensuring the competency of their environmental staff. Where environmental training is needed for staff, a contractor is responsible for ensuring this requirement is fulfilled. Any training provided to members of the project team will be logged by the project administrator and any certification documents will be produced by the relevant members of staff as evidence that they hold the required competencies.

5.1.1 Toolbox Talks

To provide ongoing reinforcement and awareness training, the below topics, along with any other environmental issues which arise, will be discussed at regular toolbox talks provided by the CEM or relevant specialists. Where applicable to the works the following topics will be included in the induction:

- Waste management;
- Pollution prevention and control;
- Biosecurity;
- Measures for marine mammals, including the role of Marine Mammal Observer
- Archaeology; and
- Emergency response procedures.

Additional toolbox talks shall be added by the CEM or relevant specialists as required based on circumstances such as unforeseen risks, repeated observation of bad practices, or perceived lack of awareness.

Records of all toolbox talks and their attendees shall be maintained and recorded.

5.2 Communications

5.2.1 Internal Communication

Communication on environmental issues within the project team will take place through face-to-face conversations, e-mails, and telephone calls / virtual meetings. The project management team will be made aware of all environmental issues at the earliest possible opportunity. Communication on environmental matters will be maintained through construction meetings chaired by the Environmental Advisor / Manager or a senior manager.

Environmental issues identified by any member of the project team will be communicated to the relevant personnel to ensure any required actions are carried out. Dissemination of information will take place in several forms, as appropriate, including meetings to discuss project issues, method statements, task/activity briefings, toolbox talks, inductions, environmental notices, and environmental alerts. Records that these have been carried out and who received them will be recorded. The Environmental Advisor / Manager will notify Supervisors of any legislation changes which may affect working practices.

Any unexpected finds / occurrences by project staff can be reported to their supervisors, which will then give notification to the relevant member of the Environmental Team who will advise on the course of action to be taken.

5.2.2 External Communication

Contractors will liaise regularly with the Project Promoters and their representatives regarding the programme of works, nature of the operations, and methods to be employed to minimise adverse environmental impacts. This will include progress meetings as well as the production and submission of progress reports which will cover environmental / sustainability issues. Contractors will also supply all relevant supporting information and documentation to the Applicant for matters concerning consents and the environment in accordance with the appropriate timescales.

In the event of stakeholder liaison being required with local authorities or other stakeholders, the Contractors will identify the requirement and seek authorisation from the Applicant to undertake the task. Where consultation is required, a representative from the Applicant will be invited to attend alongside the relevant Contractor personnel.

Project staff will keep an archive of any e-mail correspondence between themselves and statutory authorities and other stakeholders concerning the activities taking place. Where any complaints are received, a log of correspondence and complaints will be kept up to date by the relevant Contractor.

The Contractor will appoint a Community and Stakeholder Liaison Officer to carry out liaison duties with the public and others and will develop the Communications Plan for the Proposed Development. The responsibilities of the Community and Stakeholder Liaison Officer are outlined in Section 3.1.

Contact details of the Community and Stakeholder Liaison Officer will be made publicly available and advertised clearly.

Contact details will be detailed and displayed on the site notice board. A template for the Emergency Contact List is provided in Appendix C.

5.2.3 Community and Stakeholder Relations

It is good practice to inform interested parties when works are due to commence. Contractors will not communicate with stakeholders unless approval has been granted by the Applicant. A Community and Stakeholder Liaison Officer role will be appointed, as described above.

The Contractor's Community and Stakeholder Liaison Officer will interface with the Applicant's Community Liaison Officer.

Stakeholder meetings will be held as required.

Any letters issued to interested parties will be drafted and issued by the Project Promoters, with inputs from the Community and Stakeholder Liaison Officer.

5.2.4 Complaints Procedure

The Community and Stakeholder Liaison Officer will be responsible for dealing with any complaints and will have the appropriate authority to resolve any issues that may occur. Should it be required, an 'out of hours' telephone number will be available. The Community and Stakeholder Liaison Officer will also communicate complaints on environmental matters communicated to the Applicant's Planning and Environmental Unit, based centrally in EirGrid's Dublin office.

The Environmental Manager / Advisor will maintain a close liaison with the relevant Local Authority Environmental Health Officer ('EHO'), and offshore regulatory body at all times, and should any complaints regarding environmental nuisance (e.g. dust or noise) be received by the Community and Stakeholder Liaison Officer the details will be passed to the relevant persons for verification purposes.

5.3 Environmental Incident Procedure

All incidents associated with the construction of the Proposed Development, including environmental incidents and non-conformance with the CEMP, will be reported, and investigated.

The formal procedure for handling Environmental Incidents will be developed and agreed by the Contractor / Construction Manager and communicated through the CEMP, however it is envisaged that it will be similar to that detailed below:

- Environmental Incidents are to be reported to the Construction Manager;

- The Construction Manager (or nominated representative) will record full details of the Environmental Incident and ensure that they are responded to as soon as reasonably practicable (preferably within one hour but always within 24 hours); and
- The Construction Manager (or nominated representative) will undertake an investigation to assess what corrective and preventative action, or further investigation is necessary to avoid recurrence of the Environmental Incident.

5.3.1 Pollution Incident Control Plan

A Marine Pollution Contingency Plan will be developed for the Proposed Development, post-consent. The production of this document is a requirement of the Marine Licence and will be submitted to the marine licencing authority for approval prior to construction.

The final response procedure will be presented in the Marine Pollution Contingency Plan, which will be produced post consent.

Each vessel utilised on the project will have an effective spill response process in place, i.e. a Ship Oil Pollution Emergency Plan ('SOPEP'), or equivalent.

SOPEP is a MARPOL 73/78 requirement under Annex I. All ships with 400 GT and above must carry an oil prevention plan as per the norms and guidelines laid down by IMO under Marine Environmental Protection Committee ('MEPC') Act.

The Master of the ship has overall charge of the SOPEP of the ship, along with the chief officer as subordinate in charge for implementation of SOPEP on board. SOPEP also describes the plan for the master, officer, and the crew of the ship to tackle various oil spill scenario that can occur on a ship.

All vessels will carry spill kits, suitable individuals will be available to provide 24 hr spill response (where 24 hr working is planned). Individuals will have been trained by the CEM, or relevant specialists, in the use of spill kits and procedures so that any response is carried out immediately and efficiently.

In addition, Contractors will work with the MMO to provide support in event of any incident occurring where pollution of the marine environment occurs.

Emergency Response Plans and Emergency Notification Flowchart will be produced by the contractor. This will include project specific emergency contact details, notification requirements, and classifications for an environmental incident.

5.3.2 Dropped Objects

Dropped objects will be reported in line with the requirements set out in the Marine Licence.

5.4 Health and Safety

The Applicant and Contractor are required to ensuring the health and safety of persons working on projects and the protection of the environment is maintained in accordance with

the Construction (Design and Management) Regulations 2015, as amended¹ (the 2015 Regulations) and the principles and philosophy behind them.

In accordance with health and safety legislation², the contractors will prepare a Construction Phase SHE Plan prior to construction works commencing.

A SHE Plan will be prepared by the contractors for each element of the Proposed Development, including construction work. The Plan will ensure that adequate arrangements and welfare facilities are in place to cover:

- The safety of construction staff;
- The safety of all other people working at or visiting the construction site;
- Overall compliance with health and safety legislation, approved codes of practice and industry best practice;
- Emergency procedures being defined and adopted; and
- Appropriate training and information being provided to personnel.

The contractors' Construction Phase SHE Plan will be reviewed by the Applicant to ensure it meets the 2015 Regulations prior to construction commencing. As described at Section 2.1, the SHE Plan will be managed, implemented, and updated as necessary through the duration of the project by the Contractor Project Manager.

All staff, site visitors and delivery drivers will receive a relevant project induction by the contractors to ensure they are aware of site hazards and health, safety, and environmental management requirements. Site staff will be briefed daily by the contractors prior to work commencing. Site-specific risk assessments will be carried out to ensure the risk remains relevant. The contractors will be required to carry out audits and inspections throughout the proposed development in accordance with Section 2.1 of this CEMP.

5.5 Construction Hours

Proposed timings of the Proposed Development are outlined in the ER and in Chapter 2, subject to approval by the MMO prior to the commencement of the works.

5.6 Construction Site Layout and Appearance

The layout, appearance and operation of the construction site, site offices / compounds, and vessels will be detailed prior to construction commencing and will comply with the commitments in this CEMP.

¹ <https://www.legislation.gov.uk/ukxi/2015/51/contents/made>

² The Health and Safety at Work etc Act 1974 available at:
<https://www.legislation.gov.uk/ukpga/1974/37/contents>, accessed 8 June 2021.

5.7 Waste Management

The Applicant and the contractors are responsible for managing waste arising from all activities in order to prevent pollution and to meet or exceed legal requirements^{3, 4, 5}.

The contractor will prepare a Waste Management Plan (WMP) to include matters related to any conditions of the Marine Licence and any other post consent related matters, including in respect of detailed design and scope activities and confirmatory survey works.

The contractor's WMP will include waste stream management procedures that include protocols for the correct handling, segregation, and disposal of waste in accordance with best practice guidelines, as well as in accordance with Annexes IV and V of the International Convention for the Prevention of Pollution from Ships (the MARPOL Convention).

In line with the revised 2011 EU (Waste Directive) Regulations 2011 [S.I. No. 126/2011], waste will be managed in accordance with the waste hierarchy as defined by the EU Directive 2008/98/EC on Waste. This means that waste will be reduced, reused, recovered, and recycled as far as reasonably practicable.

The contractor will operate control measures in accordance with industry best practice to ensure:

- No unauthorised keeping, deposit, or disposal of materials;
- No unauthorised treatment of material;
- No escape / release of waste material, either while the material is awaiting transportation or during transportation;
- Material is only transported by an authorised person / company who holds the correct Waste Carriers / Broker Licence; and
- A Waste Transfer Note is used with a written description of the material.

Vessels will manage on-board waste streams including wastewater and sewage in line with international agreements such as the International Convention for the Prevention of Pollution from Ships (the MARPOL convention), with Annex IV relating specifically to sewage management and Annex V relating to solid waste streams such as garbage.

Waste produced offshore will be stored in designated containers and returned to port by the EPC contractor. Onshore, waste will be segregated into designated containers that are made of materials appropriate to the content. Waste will be collected and disposed of by a licensed waste contractor.

³ Environmental Protection act 1990.

⁴ Hazardous Waste (England and Wales) Regulations 2005.

⁵ Waste Framework Directive 2006/12/EC

Hazardous wastes arising from the works generated on board the vessels will be segregated based on its classification as (potentially) hazardous or non-hazardous. Under MARPOL 73/78 the following waste types are distinguished and on board the vessels, segregation takes places accordingly:

- Operational waste (general and recycling); and
- Hazardous wastes (which are expected to include waste oils, oil / fuel contaminated materials, and will not be mixed with non-hazardous or inert materials).

5.8 Security

The construction site and vessels will be controlled in accordance with the statutory duty² to prevent unauthorised access to the site. Site-specific assessments of the security and trespass risk will be undertaken at the site and appropriate control measures implemented. The control measures are likely to include:

- Consultation with MMO and LPA's on security proposals for the site and vessels with regular liaison to review security effectiveness and response to incidents; and
- Immobilisation of plant and vessel out of hours, removing or securing hazardous materials from site and compounds, and securing fuel storage containers.

5.9 Welfare

No living accommodation will be permitted on the onshore construction compound for the foreshore works. Onsite and on vessel welfare facilities will be provided for all site workers and visitors. Welfare facilities will be kept clean and tidy, in accordance with Section 2.7 of this CEMP.

5.10 Biosecurity

The risk of Invasive Non-Native Species (INNS) will be reduced by the contractor in agreement with the Applicant by carrying out a Biosecurity Risk Assessment and implementing INNS Management Plan, drawing on the findings of the ER, including appropriate mitigation as outlined within Volume 4 – Technical Chapters, Chapter 14 - Biodiversity. This will be done in relation to all marine operation activities associated to the Proposed Development. The risk assessment and management plan will include consideration of all activities, vehicles and equipment used as well as how the risk will be minimised through appropriate mitigation and adherence to best practice guidance and management measures. The risk assessment will include a review of all the available data in relation to the presence of marine INNS where applicable to the Proposed Development, and the potential risks associated to each species identified.

5.11 Unexploded Ordnance

Risk assessments will be undertaken prior to each stage of construction commencing for the possibility of unexploded ordnance being found within construction areas. These will be used to specify safe working requirements, which may include advance magnetometer surveys at

piling locations and appropriate training for site operatives. An unexploded ordnance specialist will be available on-call for any works in high-risk areas. An Emergency Response Plan for unexploded ordnance will be prepared by the contractors and will be followed to respond to the discovery of unexploded ordnance. This will include notifications to the relevant local authorities, emergency services, and businesses.

5.12 Consents and Licences

A number of sections of this CEMP reference consents, permits, and licences that will be required during construction. The ER contains details of the consents and licences the Applicant currently believes will be required to construct the Proposed Development that will be obtained outside of the application process. A Consents Register will be maintained by the CEM which will document all existing consent conditions, record all new applications made and the status of the applications.

A Register of Legal and Other Requirements will be maintained in the CEMP. This will include information relevant to the Proposed Development. A draft Register of Legal and Other Requirements can be located in Appendix B.

6 Environmental Control Measures

6.1 Introduction

This chapter of the CEMP provides an overview of the environmental control measures that will be implemented during the construction of the Proposed Development to avoid, reduce, or compensate for adverse effects as identified in the ER chapters.

Any updated CEMP will provide full details of environmental control measures as identified by the contracted environmental specialists.

The Project Promoters will ensure that all sub-contractors adhere to the environmental good practice guidelines for implementation during work activities.

Table 6.1 provides a summary of the mitigation and monitoring measures required to avoid, reduce, and minimise potential impacts which may arise from the Proposed Development during construction, and which have been committed to by the Project Promoters in the ER.

Table 6.1 Environmental Control Measures to be incorporated for the Construction Phase

Environmental Topic	Potential Impacts	Monitoring and Mitigation
Population and Human Health	<ul style="list-style-type: none"> Impact on participants of water sport and angling due to reduced parking affecting the transport of equipment to the beach, and due to limitations on access in offshore areas during installation. 	<ul style="list-style-type: none"> Installation activities are planned to take place over short periods, avoiding as far as possible the peak tourist season and to avoid specific events. The approach to design of the construction plan includes flexibility to allow for circumstances such as the combination of a fixed date for an event, a weather window, and restrictions on vessel deployment schedules. Public information will be provided about the works including signage at and near the site; information at tourist information points; and timely distribution of information to civic authorities and local organisations. There will be identification of and engagement with organisations assessed as likely to be particularly concerned or affected.

Environmental Topic	Potential Impacts	Monitoring and Mitigation
		<ul style="list-style-type: none"> Regular physical monitoring of the site and additional monitoring of the construction site as appropriate before, during and after natural events, organised events (such as festivals) or other circumstances in which any aspect of works, barriers or associated safety equipment and procedures may be detrimentally affected.
Air Quality and Climate	<ul style="list-style-type: none"> No potential impacts are identified which require monitoring or mitigation. 	<ul style="list-style-type: none"> N/A
Marine Sediment Quality	<ul style="list-style-type: none"> Potential release / remobilisation of contaminants held within the sediment when the seabed is disturbed during installation. Installation of cable protection has the potential to impact marine water quality via the release of hazardous substances through loss of chemicals / fuels from installation vessels. 	<ul style="list-style-type: none"> During the pre-construction engineering and design phase, a detailed analysis of the seabed along the route of the interconnector will be undertaken. From this, the most appropriate installation techniques will be established, as determined by seabed type, to minimise sediment disturbance and hence minimise effects on marine water quality. Vessels used for installation will be compliant with the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations. These regulations cover the prevention of pollution from accidents and routine operations. During installation, measures will be taken to minimise the risk of collision between installation vessels and other vessels, including issue of appropriate notifications via official channels. All vessels used during installation will have Shipboard Oil Pollution Emergency Plans (SOPEP) in operation.

Environmental Topic	Potential Impacts	Monitoring and Mitigation
		<ul style="list-style-type: none"> Throughout the Proposed Development's lifespan, periodic monitoring of the cable route will be undertaken; should such monitoring identify significant changes in the bathymetry or seabed features (i.e. sediment type) in the vicinity of the cable route, appropriate measures will be taken, including replacement or addition of further external cable protection, as necessary.
Marine Physical Processes	<ul style="list-style-type: none"> Disturbance to, and loss of, seabed features during cable installation. Disturbance to, and loss of, seabed features during installation of cable protection. 	<ul style="list-style-type: none"> During the pre-construction engineering and design phase, detailed sub-bottom profiling, and accompanying analysis of the seabed along the route of the interconnector will be undertaken. From this, the most appropriate installation techniques will be established to minimise sediment disturbance. Where the need for external rock protection is identified, this will be designed according to the receiving environment, based on seabed type, and the need to reduce seabed disturbance.
Marine Water Quality	<ul style="list-style-type: none"> Disturbance of the seabed along the route through release of contaminants held in surficial sediments. 	<ul style="list-style-type: none"> During the pre-construction engineering and design phase, a detailed analysis of the seabed along the route of the Celtic Interconnector will be undertaken. From this, the most appropriate installation techniques will be established, as determined by seabed type, to minimise sediment disturbance and hence minimise effects on marine water quality. Where the need for external rock protection is identified, this will be designed according to the receiving environment, based on seabed type, and the need to reduce seabed disturbance. Cable protection will be

Environmental Topic	Potential Impacts	Monitoring and Mitigation
		<p>designed to minimise scour, and hence resuspension of sediments.</p> <ul style="list-style-type: none"> • Vessels used for any monitoring or maintenance activities during the operation phase of the Proposed Development will be expected to be compliant with MARPOL regulations. These regulations cover the prevention of pollution from accidents and routine operations. • Throughout the Proposed Development's lifespan, periodic monitoring of the cable route will be undertaken; should such monitoring identify significant changes in the bathymetry or seabed features (i.e. sediment type) in the vicinity of the cable route, appropriate measures will be taken, including replacement or addition of further external cable protection, as necessary.
Biodiversity	<ul style="list-style-type: none"> • Potential for loss of chemicals, fuels, or other pollutants as a result of accidental spills from installation vessels and other associated heavy plant affecting biodiversity. • Underwater noise and disturbance effects on marine mammals in the intertidal zone (seals) and subtidal zone (all groups) during the installation phase particularly as a result of piling causing 	<ul style="list-style-type: none"> • Project-related vessels would be operated in line with 'IMO Guidelines for the reduction of underwater noise' to address adverse impacts on marine life. • Operations will be undertaken in line with JNCC's 'Guidelines for minimising the risk of injury to marine mammals from geophysical surveys' (JNCC, 2017) and the 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (JNCC, 2010); • Use of appropriate installation equipment, determined sea conditions including seabed type, will be used, to reduce seabed disturbance, subsequent release of

Environmental Topic	Potential Impacts	Monitoring and Mitigation
	<p>potential disturbance, hearing loss / injury and/or direct mortality, subsea survey and monitoring equipment (causing potential disturbance, hearing loss/injury, and / or direct mortality) and increased vessel movements (causing seal injury from ducted propellers).</p> <ul style="list-style-type: none"> Disturbance to seabirds due to installation works including temporary habitat loss from installation works including due to increases in suspended sediment and pollution events reducing habitat quality or having direct toxic effects. 	<p>sediment into the water column, and indirect effects on benthic habitats and species.</p> <ul style="list-style-type: none"> Following JNCC (2017) guidance on the use of a non-dedicated MMO for the purposes of mitigation; Following JNCC (2017) guidance on the use of PAM as a form of mitigation and for use during night-time and poor visibility conditions; Selection of suitable geophysical survey equipment and technology, and used within the accepted/permitted frequencies (>200kHz), or suitably mitigated (as per JNCC, 2017) to avoid or reduce the likelihood of impacts on marine fauna; Use of ramp up/soft start procedures for the geo acoustic survey to prevent receptors from being startled e.g. marine mammals, marine turtles and basking shark); Operations in the will include operational soft starts, so fish have the opportunity to move away from the sound source; Project-related vessels will adhere to international best practise regarding pollution control, namely the MARPOL Convention; Ensure appropriate burial depths (target 0.8-2.5m) and heat shielding from cable burial and rock placement (where applicable). This is likely to indirectly reduce effects from heat emissions and electro-magnetic fields (EMF).

Environmental Topic	Potential Impacts	Monitoring and Mitigation
Seascape and Landscape	<ul style="list-style-type: none"> No potential impacts are identified which require monitoring or mitigation. 	<ul style="list-style-type: none"> N/A
Archaeology and Cultural Heritage	<ul style="list-style-type: none"> Disturbance and removal of remains of geoarchaeological interest and through the disruption of a single stratigraphic sequence. Offshore deposits of geoarchaeological interest would be directly disturbed during the insertion of the marine cable where the cable is installed by jetting or ploughing. Disturbance of archaeologically significant deposits. 	<ul style="list-style-type: none"> Implementation of an agreed scheme of archaeological work aimed at identifying and recording deposits of archaeological interest, retrieving, and analysing archaeological material would allow for these deposits to be adequately understood. An agreed programme of further archaeological investigation and recordings combined with analysis of archaeological material already recovered and appropriate publication / dissemination of the results. Archaeological exclusion zones will be established round the sites of known and potential wrecks along the cable route. These exclusion zones would be 100m from the recorded location of a wreck or location of any high potential sites, and 50m from the location of any medium potential sites.
Material Assets	<ul style="list-style-type: none"> Risk of damage to existing subsea cables at cable crossings intersected by the Proposed Development. Proposed Development intersecting with concept or early planning area for an offshore windfarm. 	<ul style="list-style-type: none"> Consultation with existing cable operators, use of crossing-specific cable protection specifications, and approval of Cable Crossing Agreements prior to works. Consultation with windfarm developers to determine the likelihood of the offshore windfarm proceeding in this location, the level of risk associated with the cable location and the cable installation methods including cable protection.

Environmental Topic	Potential Impacts	Monitoring and Mitigation
Noise and Vibration	<ul style="list-style-type: none"> Noise and noise from vessel movement during installation. 	<ul style="list-style-type: none"> Vessels used by the Proposed Development will be operated and maintained in line with IMO Guidelines for the reduction of underwater noise from commercial shipping.
Shipping and Navigation	<ul style="list-style-type: none"> Temporary presence of work vessels with limited ability to manoeuvre during the construction phase and potentially an associated temporary exclusion zone. Presence of rock armour above the previous seabed level, resulting in localised reduction in water depth available for navigation. Presence of cables within anchor burial depth of the seabed, imposing restrictions on where vessels may anchor. 	<ul style="list-style-type: none"> Compliance by both work and passing vessels with the COLREGS for vessel safety during installation. This will be encouraged and facilitated by keeping all sea users fully informed of plans and progress regarding the cable installation and procedures in place to ensure their safety when navigating in the vicinity. Supply of information to appropriate authorities to enable marine charts and sailing directions to be updated to show the cable route. Sea users will be fully informed of plans and progress regarding the cable installation and procedures in place to ensure their safety when navigating in the vicinity. This will be achieved through: <ul style="list-style-type: none"> The issuing of Notices to Mariners; Radio navigational warnings by local ports and coastguards; Placing news items on the Kingfisher Information Service Offshore Renewables and Cable Awareness (KIS-ORCA) website; Radio communication between work vessels and passing vessels; and Direct contact with local commercial fishing organisations.

Environmental Topic	Potential Impacts	Monitoring and Mitigation
Commercial Fisheries	<ul style="list-style-type: none"> • Displacement of fishing activity by cable installation activities. Structures on the seabed represent potential snagging points for fishing gear and could lead to damage to, or loss of, fishing gear. • Seabed obstructions from cables on the seabed and from cable protection. 	<ul style="list-style-type: none"> • A Fisheries Liaison Officer (FLO) will be maintained throughout the Proposed Development, to facilitate ongoing communication with fisheries representatives and organisations throughout construction and installation in accordance with good practice. • Application for and use of 500m (radius) mobile safety zones around all maintenance operations. • Advanced warning and accurate location details of construction operation and associated mobile safety zones. Safety zones to be brought to the attention of mariners with as much advance warning as possible via frequent notification and other means e.g. the Kingfisher Bulletin, VHF radio broadcasts. and through direct communications via the FLO. • Bathymetric survey to be undertaken following completion of installation or repair works to ensure that the cables have been buried or protected and sediment is able to move over any installed cable protection.
Major Accidents and Disasters	<ul style="list-style-type: none"> • Vessel collision with potential for loss of property, injury, or loss of life. • Accidental leak or spill of fuel or lubricants during use of plant and machinery. • Accident involving plant or machinery and 	<ul style="list-style-type: none"> • Impacts managed through installation planning, adherence to navigational best practice, issue of Notice to Mariners, and use navigational markers. • Construction and site management good practice including preparation of a CEMP, and adherence to the International Convention for the Prevention of Pollution from Ships (MARPOL). These will limit the likelihood and size of leaks or spills and provide measures to contain accidental

Environmental Topic	Potential Impacts	Monitoring and Mitigation
	Hazardous offshore working conditions.	<p>releases such that they cannot discharge into the environment.</p> <ul style="list-style-type: none">• Offshore works will not typically be undertaken in storm conditions above sea state 3.• Safety measures onboard vessels and the adequate training of crew will minimize risk to personnel.

Appendix A.

CEMP Review Table

Proposed Review Period	Due Date of Review	Actual Date of Review	Sections Amended	CEMP Issue Number	Reviewed by		
					Project Manager / Supervisor	Contractor's Project Director	Contractor's Environmental Manager

Appendix B.

Draft Register of Consents and Legal Responsibilities

Environmental Topic	Consent Licence / Permit Type	Description	Consent Granting Body	Responsibility	Date Required	Programme Risk	Additional Comments

Appendix C.

Emergency Contact Details Template

Name	Company	Person	Contact Number(s)	Contact Address
Project Hotline				
Employer				
Contractor				
Contractor's Project Manager / Supervisor				
Environmental Manager				
Environmental Co-ordinator				
Waste Management Contractor				
Fire Service				
Environmental Protection Agency				