



# Scotland England Green Link 1 / Eastern Link 1 - Marine Scheme

---

Environmental Appraisal Report  
Volume 2

Chapter 17 - Schedule of Mitigation and Commitments

**nationalgrid**



**SP TRANSMISSION**

National Grid Electricity Transmission and Scottish Power Transmission

May 2022

Prepared for:

National Grid Electricity Transmission and  
Scottish Power Transmission Plc

Prepared by:

AECOM Limited  
Aldgate Tower, 2 Leaman Street  
London, E1 8FA  
United Kingdom  
T: +44 20 7061 7000  
aecom.com

In association with:

Xodus Group (Shipping and Navigation);  
Wessex Archaeology (Marine Archaeology); and  
Brown and May Marine Ltd (Commercial Fisheries).

© 2022 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

## Table of Contents

17. Schedule of Mitigation and Commitments .....	17-1
17.1 Introduction .....	17-1
17.2 Mitigation and Commitments .....	17-1

## Tables

Table 17-1: Topic specific management plans .....	17-1
Table 17-2: Schedule of Mitigation .....	17-2

## 17. Schedule of Mitigation and Commitments

### 17.1 Introduction

This chapter of the Environmental Appraisal Report (EAR) summarises the embedded mitigation, the project specific mitigation and monitoring measures that have been committed to as part of the Marine Scheme.

The Schedule of Mitigation and Commitments presented in Table 17-2 presents the mitigation and monitoring measures reported in Chapter 2: Project Description, and in Chapters 7 to 15, of this EAR.

These measures will be carried forward into the Construction Environmental Management Plan (CEMP) and topic specific management plans. Where appropriate, they will also be carried forward into an Operational Environmental Management Plan (OEMP) as the primary mechanism for mitigation delivery. It is anticipated the topic-specific management plans will be conditioned as part of the marine licences<sup>1</sup> and supporting documentation which are sought for the Marine Scheme.

To help streamline regulation for both marine regulators (Marine Scotland and the Marine Management Organisation (MMO)), the Transmission Owners (hereafter referred to as 'the Applicant') are keen to work collaboratively with both bodies to ensure maximum efficiency in the development of licence conditions; this is a measure considered to benefit all parties.

The CEMP will be prepared by the appointed Contractor post-consent and will form the basis of the approach to mitigating the effects of the Marine Scheme on the natural and human environment, and the local community. The CEMP will be supported by a number of additional documents (see Table 17-1) and will address any additional requirements and conditions identified during the marine licensing process.

**Table 17-1: Topic specific management plans**

Topic specific management plan	Purpose of the plan
Emergency Spill Response Plan	This plan will assess the risk of spills and provide a step guide which is to be followed in the event of a spill during the installation phase of the Marine Scheme.
Waste Management Plan	This plan will outline how waste created by the Marine Scheme will be managed and dealt with, taking into consideration the waste hierarchy, including estimates of waste type, volume and management method.
Marine Mammal Protection Plan	This plan focuses on potential impacts to marine mammals associated with the Marine Scheme, incorporating management actions and strategies associated with installation activities.
Fisheries Liaison and Co-existence Plan	This plan will document communication commitments to co-existing with the commercial fishing industry in the areas of the Marine Scheme during installation and operation.
Fisheries Management and Mitigation Strategy	This plan will document all measures committed to by Marine Scheme and ensure that those working on the project co-operate with the commercial fishing industry.

The CEMP (including additional topic specific management plans) will be submitted to the MMO and the Marine Scotland Licensing Operations Team (MS-LOT).

### 17.2 Mitigation and Commitments

Mitigation commitments are summarised in Table 17-2 below and described in further detail in Chapters 2, and in Chapters 7 to 15 of this EAR.

<sup>1</sup> A Marine Licence Application has been made to both the Marine Scotland Licensing Operations Team (or 'MS-LOT') and the Marine Licensing Team within the Marine Management Organisation (MMO).

**Table 17-2: Schedule of Mitigation**

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
General	Pre-Installation	Micro-routeing	Detailed route development and micro-routeing to be undertaken within the marine installation corridor to avoid or minimise localised engineering and environmental constraints.	Chapter 2, Section 2.8 Chapter 7, Section 7.6.1
		Pre-installation surveys	<p>Pre-installation surveys will inform detailed engineering and cable installation planning. They will focus on collection of detailed information within the preferred route for each of the cables, all within the marine installation corridor. They will confirm the absence or presence of any new obstructions or significant changes to seabed conditions and bathymetry, and also help to inform detailed Unexploded Ordnance (UXO) assessment. Survey methods may include:</p> <ul style="list-style-type: none"> <li>• Acoustic methods such as multibeam and single beam echo sounders, side scan sonar (SSS), and sub-bottom profiler;</li> <li>• Magnetometer/gradiometer to identify magnetic anomalies and metallic targets;</li> <li>• Visual methods including drop down video or remotely operated vehicle (ROV); and</li> <li>• Geophysical investigations such as vibrocore and cone penetration test (CPT).</li> </ul>	Chapter 2, Section 2.8 Chapter 12, Section 12.6.1 Chapter 13, Section 13.6.2
		Geophysical Surveys – underwater sound	<p>Given the potential for injury from the use of the Sub-Bottom Profiler (SBP), mitigation measures recommended in the JNCC guidelines for minimising the risk of injury in marine mammals will be adopted, available from: <a href="https://data.jncc.gov.uk/data/e2a46de5-43d4-43f0-b296-c62134397ce4/jncc-guidelines-seismicsurvey-aug2017-web.pdf">https://data.jncc.gov.uk/data/e2a46de5-43d4-43f0-b296-c62134397ce4/jncc-guidelines-seismicsurvey-aug2017-web.pdf</a>.</p> <p>The measures below will be included in a Marine Mammal Protection Plan (MMPP), as part of the CEMP developed for the Marine Scheme:</p> <p>The JNCC guidance minimises the potential for injury to cetaceans from the SBP activities using marine mammal observation. Thus, before a geophysical activity begins, there will be a period of observation by a qualified Marine Mammal Observer (or passive acoustic monitoring in the case of operations during the hours of darkness). Thus, the likelihood that any animals are within 500 m of the source, the standard observation zone, at the point at which the SBP is activated is very low. Following the observation period, SBP survey activities only commence after a period when no animals have been seen.</p>	Chapter 2, Section 2.8 Chapter 10, Section 10.6.1
		Profile of rock berms	The profile of rock berms will be designed to minimise the potential for scour to occur as much as possible. Adopting such a best practice approach will reduce the impact associated with elevated suspended sediment concentrations due to localised scouring at the edge of berms from minor to negligible and is to be implemented where practicable.	Chapter 2, Section 2.8 Chapter 7, Section 7.6.1

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
		CEMP	A CEMP, including an Emergency Spill Response Plan, Waste Management Plan, Marine Mammal Protection Plan, Fisheries Liaison and Co-existence Plan (FLCP) and Fisheries Management and Mitigation Strategy (FMMS) will be developed prior to commencement of works.	Chapter 2, Section 2.8 Chapter 8, Section 8.6.1 Chapter 9, Section 9.6.1 Chapter 10, Section 10.7 Chapter 11, Section 11.6.1 Chapter 14, Section 14.6.1 Chapter 15, Section 15.6.1
		Fisheries Liaison Officer	A Fisheries Liaison Officer (FLO) will be appointed for the installation phase and as required during the Operation (including maintenance and repair) Phase. Requirements for decommissioning phase will be determined following economic and environmental appraisals. Adherence to good practice guidance on the approach to fisheries liaison and mitigation (e.g. FLOWW, 2014; 2015).	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Procedures	Development of a procedure for the management of a claims for loss of/or damage to fishing gear during installation.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Code of Good Practice	Development of a Code of Good Practice for contracted vessels.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Notifications	Notifications of the Marine Scheme will be made to: <ul style="list-style-type: none"> <li>• Notice(s) to Mariners' (including Kingfisher), Radio Navigational Warnings, NAVTEX and/or broadcast warnings will be issued prior to the commencement of installation works;</li> <li>• Third-party infrastructure asset owners, to notify them of any activities associated with the Marine Scheme and avoid spatial and temporal interactions between vessels;</li> <li>• Regular vessel operators (e.g. ferry operators) to notify of installation works;</li> </ul>	Chapter 2, Section 2.8 Chapter 13, Section 13.6.2 Chapter 14, Section 14.6.1 Chapter 15, Section 15.6.1

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
			<ul style="list-style-type: none"> <li>• Other marine energy infrastructure operators to confirm operation dates and otherwise rationalise activity schedules, as required; and</li> <li>• Notification of Regular Runners.</li> </ul>	
		Route preparation works	Route preparation works would be carried out as locally as possible to minimise disturbance to sensitive habitats potentially suitable for marine ecological receptors.	<p>Chapter 2, Section 2.8</p> <p>Chapter 8, Section 8.6.1</p> <p>Chapter 9, Section 9.6.1</p> <p>Chapter 11, Section 11.6.1.</p>
		<p>Legislative requirements and mitigation:</p> <ul style="list-style-type: none"> <li>- vessel-to-vessel collision</li> <li>- deviation from established and identified vessel routes and areas</li> <li>- interaction with vessel anchors and anchoring activity</li> <li>- interaction with fishing gear</li> <li>- reduction in under keel clearance</li> <li>- interference with marine navigational equipment</li> </ul>	<ul style="list-style-type: none"> <li>• All vessels will follow the International Regulations for Preventing Collisions at Sea 1972 (COLREGS) and International Convention for the Safety of Life at Sea 1974 (SOLAS);</li> <li>• All vessel wastes will be managed in accordance with the requirements set out within the International Convention for the Prevention of Pollution from Ships (MARPOL) (the discharging of contaminants is not permitted within 12 nm from the coast to preserve bathing waters);</li> <li>• Vessel contingency plans for marine oil pollution in the form of Shipboard Oil Pollution Emergency Plan (SOPEP) and chemical handling procedures will be in place;</li> <li>• All vessels will display appropriate lights and shapes;</li> <li>• All vessels will broadcast their status on AIS at all times;</li> <li>• All non-local vessels will operate to IMO regulations for ballast water management to manage INNS risks;</li> <li>• Guard vessels will use radio detection and ranging (RADAR) with Automatic RADAR Plotting Aid (ARPA) to monitor vessel activity and predict possible interactions, will be employed to work alongside the installation vessel(s) during installation and maintenance work (which will also minimise anchor disturbance on the seabed);</li> <li>• An advisory 500 m safety zone will be established around all vessels associated with the installation works;</li> <li>• The discharging of contaminants is not permitted within 12 nautical miles (NM) from the coast to preserve bathing waters;</li> <li>• Route selection will avoid so far as is practicable main navigational features;</li> </ul>	<p>Chapter 2, Section 2.8</p> <p>Chapter 7, Section 7.6.1</p> <p>Chapter 8, Section 8.6.1</p> <p>Chapter 9, Section 9.6.1</p> <p>Chapter 11, Section 11.6.1</p> <p>Chapter 13, Section 13.6.2</p> <p>Chapter 14, Section 14.6.1</p> <p>Chapter 15, Section 15.6.1</p>



Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
			<ul style="list-style-type: none"> <li>• Promulgation of information to local clubs, marinas and harbours in the vicinity of the landfalls;</li> <li>• Piloting of large vessels;</li> <li>• Limits to wave height / wind speed conditions for operations / activities will be followed by all vessels;</li> <li>• All vessels will follow Port bylaws and General Directions;</li> <li>• Very High Frequency (VHF) Broadcast Safety Navigational Warnings;</li> <li>• Industry guidance on the avoidance of fishing in the vicinity of subsea cables will be followed;</li> <li>• As-built locations of cable and external protection will be supplied to UKHO (Admiralty) and Kingfisher (KIS-ORCA);</li> <li>• Cable burial and protection measures are designed to minimise risk of snagging;</li> <li>• Routine inspection and maintenance throughout the lifecycle of the asset to identify and remediate cable exposures or other potential snagging risks;</li> <li>• Reduction in charted water depth to LAT limited to less than 5% where possible; and</li> <li>• Route Selection (specific planning for location of cable routing in shallow areas).</li> </ul>	
	Installation	24-hour cable installation	Installation will normally be a 24-hour operation where viable, minimising overall installation time and, maximising use of fair weather windows, and take advantage of vessel and equipment availability.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Securing of cable	Ends of any out of service (OOS) cables cut will be secured to the seabed in accordance with International Cable Protection Committee recommendations or reburied.	Chapter 2, Section 2.8
		Landfall installation	Horizontal Directional Drilling (HDD) will be used at both landfalls to install the cables beneath the shallow subtidal and the intertidal (between MHWS and MLWS) zone to the landfall. This will keep sediment disturbance to a minimum, significantly reduce (if not avoid) the use of cable protection measures close to shore and avoid directs on sensitive coastal and intertidal habitats and features.	Chapter 2, Section 2.8 Chapter 7, Section 7.6.1 Chapter 15, Section 15.6.1
		Biodegradable drilling fluids	Drilling fluids used will be biologically inert and will be selected from the Centre from Environment, Fisheries, and Aquaculture Science (Cefas) approved list of drilling fluids, and the OSPAR List of Substances/Preparations Used and Discharged Offshore which are Considered to Pose Little or No Risk to the Environment (PLONOR). During drilling, drilling fluids will be recycled, treated, and reused, and any waste drilling fluid will be transported offsite for treatment and disposal.	Chapter 2, Section 2.8 Chapter 8, Section 8.6.1



Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
				Chapter 9, Section 9.6.1 Chapter 11, Section 11.6.1
		Third-party cable crossings	Each cable crossing will be designed in detail in accordance with the International Cable Protection Committee recommendations. Proximity and Crossing Agreements will be agreed with cable and pipeline owners. The Crossing Agreement describes the rights and responsibilities of the parties and also the design of the crossing. Crossing design will be in line with industry standards, using procedures and techniques agreed with the cable and pipeline owners. Proximity agreements describe the approach to works close to, but not crossing third party assets, to ensure safety.	Chapter 2, Section 2.8 Chapter 15, Section 15.6.1
		Cable burial	Minimum cable burial depth of 0.6 m, with a target cable burial depth of 1.5 m. The use of cable burial will also prevent snagging with fishing gear.	Chapter 2, Section 2.8 Chapter 7, Section 7.6.1 Chapter 13, Section 13.6.2 Chapter 14, Section 14.6.1
		Cable protection	The use of cable protection will be limited to areas where cables cannot be buried to a sufficient depth and at crossings with 3rd party infrastructure.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Cable protection chartering and dissemination of information	Information on the areas where cable protection is used will be provided to relevant organisations for inclusion in charts and information bulletins.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Rock placement	Where rock placement is used for cable protection this will be designed to minimise potential snagging risk (i.e. use of graded rock and 1:3 berm profiles). A vessel able to undertake a targeted placement method will be used, such as one fitted with a flexible fall pipe.	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Transiting vessels to move at low speeds	Where the marine installation corridor passes through the Outer Firth of Forth & St Andrews Bay Complex Special Protection Area (SPA) as it leaves the Scottish landfall and the	Chapter 2, Section 2.8

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
			Northumberland Marine SPA , a commitment will be included with the CEMP to ensure that transiting vessels move at low speeds allowing any rafts of birds to disperse naturally well in advance of an approaching vessel. This will minimise the energy expended and avoid unnecessary flushing. This is especially important during the immediate post breeding dispersal periods of auks from early July to mid-September.	Chapter 11, Section 11.6.1.
	Post-Installation	Post-lay and cable burial inspection	Undertaking of post-lay and cable burial inspection to confirm the burial status of the cables, identify potential seabed hazards associated with installation, and, where appropriate and practicable, undertaking of rectification works.	Chapter 2, Section 2.8 Chapter 7, Section 7.6.1 Chapter 14, Section 14.6.1
	Operation (including maintenance and repair)	Operation and Maintenance Strategy, including Operational Environmental Management Plan	An OEMP will be developed to prepare for the event that maintenance is required. It will be implemented during the operation of the Marine Scheme in order to provide a mechanism by which to deliver environmental mitigation commitments and in case of changes in environmental condition.	Chapter 2, Section 2.8 Chapter 8, Section 8.6.1 Chapter 9, Section 9.6.1
		No planned routine maintenance work	Following installation, the cable system is designed to avoid the need for scheduled maintenance during the lifetime of the Marine Scheme.	Chapter 2, Section 2.8
		Cable exposures	In the event that cable exposures are identified during the operational phase of the Marine Scheme, the location of these will be shared with stakeholders and where appropriate, additional temporary measures put in place (e.g. surface marker buoys, use of guard vessels, etc).	Chapter 2, Section 2.8 Chapter 14, Section 14.6.1
		Existing monitoring programmes	The Marine Scheme will be monitored via existing monitoring programmes, such as the Coastal Explorer programme designed by the East Riding Yorkshire Council (ERYC) and data from the Scottish Coastal Observatory.	Chapter 2, Section 2.8 Chapter 7, Section 7.7
	Decommissioning	Options for decommissioning	Options for decommissioning will be evaluated in both environmental and economic assessments, taking account of the regulations, best practices and available technology at the time of decommissioning.	Chapter 2, Section 2.8
Physical Environment	All Stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		
Benthic Ecology	All Stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
Fish and Shellfish	All Stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		
Marine Mammals	All stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		
Ornithology	All Stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		
Marine Archaeology	Pre-installation	Written Scheme of Investigation and Protocol for Archaeological Discoveries (PAD)	A Written Scheme of Investigation and Protocol for Archaeological Discoveries (PAD) will be in place for the management of archaeological discoveries.	Chapter 12, Section 12.7
		Protocol for Archaeological Discoveries	As per the WSI, a Protocol for Archaeological Discoveries (PAD) will be adopted: <ul style="list-style-type: none"> <li>The PAD is a system for reporting and investigating unexpected archaeological discoveries encountered during installation activities, with a Retained Archaeologist providing guidance and advising industry staff on the implementation of the PAD.</li> <li>The PAD also makes provision for the implementation of temporary exclusion zones around areas of possible archaeological interest, for prompt archaeological advice, and, if necessary, for archaeological inspection of important features prior to further activities in the vicinity.</li> </ul> The PAD provides a mechanism to comply with the MSA 1995, including notification of the Receiver of Wreck, and accords with the Code of Practice for Seabed Developers (JNAPC, 2006).	Chapter 12, Section 12.7
		Palaeography	Should further ground investigation work be undertaken within areas of interest of the marine installation corridor, the archaeological contractor will be consulted to advise on potential samples to be acquired for archaeological purposes and other identified units of archaeological interest identified within the data. It is also recommended that any geotechnical logs from within the marine installation corridor be made available for geoarchaeological assessment, such as a stage one assessment of all the core logs or sampling and dating work. This would aid in refining the interpretation and therefore help determine the archaeological potential of the area. Furthermore, any samples acquired containing material of archaeological potential, particularly those within the interpreted Holocene features, will be made available for geoarchaeological assessment.	Chapter 12, Section 12.7
		Archaeological Exclusion Zones (AEZ)	AEZ's have been recommended within the marine installation corridor and are presented in Table 12-9 of Chapter 12, Section 12.7.1.1.	Chapter 12, Section 12.7

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
		A2 Anomalies	These features are to be avoided by micro-siting.	Chapter 12, Section 12.7
Shipping and Navigation	Pre-Installation	Further consultation with MCA	Where ideal cable configurations are impracticable further consultation with MCA shall be undertaken to identify project specific mitigation measures such as magnetic compass deviation survey and reporting to UKHO for inclusion in admiralty charts. Worst-case assumptions for unbundled cable may lead to some of the cable route falling outside of MMO requirements for compass deviation (EAR Volume 3 Appendix 2.1). This will be consulted upon and appropriate mitigation measures agreed if design decisions indicate it is required.	Chapter 13, Section 13.7
		Consultation with Blyth Demonstration Site	Consultation with the relevant Blyth Demonstration Site project operators shall be undertaken to confirm operation dates (including windfarms construction, cable installation and survey vessel activity) and otherwise rationalise activity schedules to minimise clashes and potential interactions.	Chapter 13, Section 13.7
	Installation	Vessel-to-vessel collision risk	Cable laying operation procedures should include provisions which recognise and address the increase in collision risk at the most densely trafficked areas of the installation corridor. Provisions should include: <ul style="list-style-type: none"> <li>operation procedures explicitly identifying the increased collision risk at KP 10 – KP 90 and KP 130 – KP 170 established prior to commencement of works;</li> <li>Guard Vessel procedures explicitly identifying the increased collision risk at KP 10 – KP 90 and KP 130 – KP 170 established prior to commencement of works; and</li> <li>prior reconfirmation with crew, that the installation vessels are entering the two areas of higher density traffic.</li> </ul>	Chapter 13, Section 13.7
		Duration of time between cable laying and burial and protection work	The duration between cable laying and associated burial and protection works will be minimised insofar as is practicable, in order to minimise the period when exposed cables are present on the seabed.	
		Identify sections of unburied or unprotected cable to sea users	Sections of unburied or unprotected cable will be identified to sea users, where they are not patrolled by guard vessel, through the use of temporary marker buoys.	
	Post-installation	Post lay survey reports are disseminated to regulators	Post lay survey reports will be provided to regulators to further increase awareness. Information on the areas where cable protection is used will be provided to relevant organisations for inclusion in charts and information bulletins.	

Environmental topic	Project phase	Mitigation measure / commitment topic	Description of mitigation, commitment and/or monitoring measure	EAR chapter reference
Commercial Fisheries	Installation	Removal or relocation of static fishing gear	Where static gear may be required to be removed or relocated during the installation phase, appropriate mitigation will be implemented for affected vessels following an evidence-based approach, in line with FLOWW guidance, via the establishment of co-operation agreements.	Chapter 14, Section 14.7
Other Sea Users	All Stages	No project specific mitigation measures or monitoring have been recommended as a result of the impact appraisal.		

