



Scottish Hydro Electric Power Distribution plc

ED2 - Marine Licence Support

Eriskay - Barra Submarine Cable Marine Construction Environmental Management Plan

ASSIGNMENT A101090-S00
DOCUMENT A-101090-S00-A-PLAN-001



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REV	DATE	DESCRIPTION	ISSUED	CHECKED	APPROVED	CLIENT
A01	11/02/2026	Issued for Use	AH	AM	AM	-
R01	02/02/2026	Issued for Review	AH	AM	AM	-



CONTENTS

1	INTRODUCTION	4
2	SCOPE	6
3	REVIEW AND UPDATE PROCEDURE	7
4	DOCUMENT STRUCTURE	8
5	MITIGATION REQUIREMENTS	9



1 INTRODUCTION

Scottish Hydro Electric Power Distribution plc (SHEPD) holds a licence under the Electricity Act 1989 for the distribution of electricity in Scotland. It has a statutory duty to provide an economic and efficient system for the distribution of electricity and to ensure that its assets are maintained to provide a safe, secure and reliable supply to customers.

As part of a routine inspection campaign, SHEPD have identified that the current live subsea cable between Eriskay (South Uist) and Barra in the Outer Hebrides based is in poor condition and requires replacement to safeguard the supply of power to local communities. Currently, there are two subsea power cables between the Eriskay and Barra, these are:

- The Eriskay-Barra 1 (EB-1) which was installed in 1979 and is Out of Service (OoS) has since faulted; and
- The Eriskay-Barra 2 (EB-2) an 11 kilovolt (kV) cable which was installed in 2013, which has been found to be in poor external condition.

SHEPD intends to augment the existing EB-2 cable through the installation of a new 33 kV subsea cable (EB-3) which will initially operate at 11 kV. This will improve the resilience of the network and deliver network security, as replacement of cables before they fail is essential to ensure a continued electricity supply to customers connected to these circuits.

The proposed cable corridor extends between Coilleag a' Phrionnsa beach on the Isle of Eriskay and Cidhe Eolaigearraidh on the Isle of Barra. The proposed subsea cable between Eriskay and Barra (herby referred to as "the Project") will be approximately 11 kilometres (km) long and will be installed within the proposed cable corridor.

A Marine Environmental Appraisal (MEA) was developed by Xodus Group Ltd (Xodus), to support SHEPD's licence applications for the Project activities within the proposed cable corridor (Document Number: A-101090-S00-A-REPT-001). The MEA presents a review of baseline conditions within the proposed cable corridor and identifies sensitive environmental receptors which are or may be present in the area. An assessment of potential effects on these receptors associated with the proposed Project activities was conducted, in order to ascertain the magnitude and severity of environmental impacts. Where impacts were deemed to be significant, or above acceptable criteria, mitigation protocols were identified in order to remove or reduce the magnitude of effect. The following receptors were assessed by the MEA:

- Designated Sites;
- Seabed and Water Quality;
- Marine Megafauna;
- Benthic and Intertidal Ecology;
- Ornithology;
- Marine Archaeology;
- Commercial Fisheries and Other Sea Users; and
- Shipping and Navigation.

This Marine Construction Environmental Management Plan (CEMP) is designed to provide a consolidated point of reference for SHEPD and their marine contractors. It ensures all mitigation measures identified by the MEA and



supporting documents are effectively disseminated to and implemented by the project team during Project activities. The Marine CEMP is informed by, and should be read in conjunction with the following documents:

- Eriskay - Barra Subsea Cable Replacement Project Description (Briggs, 2025);
- Marine Environmental Appraisal (MEA) (Xodus Document No. A-101090-S00-A-REPT-001);
- Marine Licence Application (MLA) Form;
- Inshore European Protected Species (EPS) Licence Application Form;
- Basking Shark Derogation Licence Application Form;
- High Level Navigation Risk Assessment (NRA) (Xodus Document No. A-101090-S00-A-REPT-002);
- Outer Hebrides Fisheries Liaison Mitigation Action Plan (FLMAP)
- How SHEPD co-exists with other marine users document¹ ;
- Operation, Inspection, Maintenance and Decommissioning Strategy (OIMD); and
- Cost Benefit Analysis (CBA) Summary Report.

¹ <https://www.ssen.co.uk/globalassets/about-us/projects-and-live-works/subsea-cables/how-shepd-co-exists-with-other-marine-users.pdf>.



2 SCOPE

The Marine CEMP is intended for use during all marine works (below Mean High Water Springs (MHWS)), associated with the proposed cable installation activities, including:

- Seabed preparation:
 - Pre-installation surveys to identify debris / obstructions;
 - Pre-Lay Grapnel Run (PLGR) and boulder clearance, where required; and
 - Removal of sections of OoS cable(s), where required.
- Landfall establishment:
 - Intertidal Cable Installation via Open Cut Trenching (OCT).
- Subtidal Installation:
 - The replacement subsea cable will be surface laid along the entire length of the subtidal section of the cable corridor (Mean Low Water Springs (MLWS) to MLWS).
- Subtidal cable pull in;
- Cable protection and stabilisation:
 - Cable protection measures will include split pipe and may include concrete mattresses; and
 - Sea earths and associated protection may also be required.
- Post-installation surveys and site reinstatement.



3 REVIEW AND UPDATE PROCEDURE

By its nature the CEMP is a live document and it is important that it is updated as the Project develops, in order to capture potential changes to mitigation requirements. However, the CEMP also forms part of SHEPD's consent requirements, and as such, any material changes to the mitigation requirements may need approval from Scottish Government's Marine Directorate - Licensing Operations Team (MD-LOT), acting on behalf of the Scottish Ministers. As such, it is important that a dialogue with MD-LOT is maintained throughout the Project.

Any substantive changes to this Marine CEMP must be reviewed and approved by the following:

- SHEPD's project manager;
- Contractor's project manager;
- SHEPD's environmental consultant; and
- MD-LOT.

As a minimum, this Marine CEMP should be reviewed, and where necessary, updated at the following Project milestones:

- Award of Marine Licence;
- Following completion of pre-installation surveys and detailed route engineering; and
- Following any substantive change to Project design or cable installation methods.

Note, sufficient time should be allowed for potential review by MD-LOT if substantive changes to the Marine CEMP are required.



4 DOCUMENT STRUCTURE

The mitigation requirements in this Marine CEMP are presented in tabular form, grouped by Project phase and relevant receptors. For each item of mitigation, a breakdown of both SHEPD's and their Contractor's requirements is provided, along with links and references to other relevant documents and guidance.



5 MITIGATION REQUIREMENTS

Table 5-1 Mitigation Requirements

PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
		The CEMP must be available to all Project personnel.	Copies of this Marine CEMP must be available on all survey and installation vessels, and in Project offices.	N/A	Audit	Ensure copies made available.
		All Project personnel will be trained and informed of their responsibility to implement the environmental and ecological mitigation outlined in the CEMP.	Toolbox talks; inductions; and awareness notices will be used to disseminate this information among all relevant Project personnel.	MEA: Section 4.3	Audit training, induction, and toolbox talk records.	Ensure appropriate training is provided to personnel.
	Environmental Awareness	All necessary licences and permits will be applied for and any associated conditions of these licences will be adhered to. Copies of all licences and permits must be available at relevant Project locations.	<p>The applicable licences and permits include:</p> <ul style="list-style-type: none"> • Marine Licence; • EPS Licence; and • Basking Shark Derogation Licence. <p>Copies of relevant licences and permits must be available on all vessels and in Project offices.</p>	N/A	Provide copies of licence, and audit.	Ensure all licence and permit conditions are adhered to. Copies maintained in relevant locations.
	Spill Response	Emergency Spill Response Plan	<p>An Emergency Spill Response Plan must be developed prior to operations commencing, and should include the following details:</p> <ul style="list-style-type: none"> • Immediate actions using Source-Pathway-Receptor Model; • Communication lines and contact details; • Reporting procedure; and • Implementation of Lessons Learned. 	MEA: Section 4.3	Work with Contractor to develop plan, and audit implementation and training.	Work with SHEPD to develop plan, and ensure it is implemented during all relevant activities.
	Waste Management	Waste Management Plan	<p>A Waste Management Plan (WMP) will be developed and implemented to ensure the waste hierarchy is followed and all waste is sent onward to recycling or disposal via a licenced waste route.</p> <p>Additionally, all recovered debris will be taken ashore and sent for appropriate recycling or disposal at a licenced waste handling facility.</p>	MEA: Section 4.3 NetRegs WMP Guidance https://www.netregs.org.uk/media/1718/a-simple-guide-to-site-waste-management-plans.pdf	Work with Contractor to develop plan, and audit implementation and training.	Work with SHEPD to develop plan, and ensure it is implemented.
	Location of Works	Proposed Cable Corridor	All survey and cable installation activities will be conducted within the boundaries of the proposed cable corridor, with exception to further sea space for vessel navigation (where required) in order to facilitate cable installation.	MEA: Section 3	Audit	Implement
	General Ecology	Vessel Management	<p>The following measures will be implemented during all survey works:</p> <ul style="list-style-type: none"> • All vessels will adhere to the provisions of the Scottish Marine Wildlife Watching Code (SMWWC) and Basking Shark Code of Conduct, such as reducing speed if basking sharks are sighted and avoiding sudden changes in speed; and • Survey crew will be made aware of all protected species within the marine environment, and their responsibility to implement the mitigation in this document. 	MEA: Section 4.3 SMWWC: https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/scottish-marine-wildlife-watching-code Basking Shark Code of Conduct: https://www.sharktrust.org/Handle/Download.aspx?IDMF=6137b1a1-8518-4327-9922-7b280ac68336	Audit	Implement, and ensure copies of the guidance are available on survey vessels.

General



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
	Otters	Avoidance of Otter Holts; Layouts and Couches	Pre-construction otter surveys has been conducted at both landfalls sites. Pre-works checks will be conducted by an Ecological Clerk of Works (ECoW) prior to the commencement of cable installation and will include the cable landfall areas and a 200 m mitigation zone. Any identified otter holts, layouts and couches will be identified and avoided by a 40m buffer where possible. Should pre-construction otter surveys identify other features, SHEPD will consult with NatureScot ahead of works commencing to determine whether a disturbance licence for other is required.	MEA: Section 7.3.4	Ensure appointment of appropriately qualified ecologist is included in Contractor's scope of works. Review final design against any identified locations of otter holts, layouts and couches.	Consider survey data and treat confirmed locations of otter holts, layouts and couches as hard constraints.
	Water Quality	Tidal Working Construction	The timing of trenching works will be tide dependent (working at low water when the intertidal zone is exposed).	Eriskay - Barra Subsea Cable Replacement Project Description MEA: Sections 3 and 6.4.	Audit	Implement
	Vessel Speed	Vessel Speed	Installation vessels will be travelling at a slow speed during Project activities. The slow speed of the vessels will minimise the risk of disturbance and injury impacts to seabird and marine mammal receptors.	MEA: Section 4.3	Audit	Implement
	Otters	Otters	An appropriately qualified ECOW will be appointed to work with the cable removal personnel and ensure sensitive otter sites are not disturbed. To mitigate the risk of otters becoming trapped within excavated trenches at the landfalls, ramps will be incorporated into trench designs to ensure otters are able to escape should they enter a trench. All mitigations will be compliant with terrestrial planning conditions including SHEPD's Otter Protection Policy.	MEA: Sections 4.3 and 7.3.4	Ensure appointment of appropriately qualified ECOW	Implement
	Benthic Habitats	Deployment of Anchor Chains on the Seabed Will be Kept to a Minimum and Within the Identified Anchor / Spud Areas	Deployment of anchor chains on the seabed will be kept to a minimum and within the identified anchor / spud areas (see Eriskay - Barra Subsea Cable Replacement Project Description), therefore reducing the potential for disturbance to benthic habitats and species including those which utilise the seabed.	MEA: Section 4.3	Review statements to ensure efforts to minimise anchoring are included.	Consider and implement alternatives to anchoring where possible.
	Ornithology	Vessel Lighting	Lighting on-board all Project vessels will be appropriately directed and kept to the minimum level required to ensure safe operations. This will minimise disturbance to seabird species by minimising light pollution, which in turn will reduce effects associated with visual amenity.	MEA: Section 4.3	Audit	Implement
	Shipping and Navigation	Avoidance of Trawling and Anchoring	In line with guidance provided by the UKHO, the International Maritime Organisation (IMO) and the Maritime and Coastguard Agency (MCA) within the Mariner's Handbook (NP100), and Marine Guidance Note (MGN) 661, SHEPD recommend that vessels should avoid demersal fishing and anchoring in proximity to subsea cables.	MEA Section 12.3	Audit	Implement
	Protected Species	Protected Species Mitigation Plan - Outer Hebrides Region	Adherence to the mitigation measures set out in the Protected Species Mitigation Plan - Outer Hebrides Region (A-101009-S00-A-REPT-004) which will apply to the following receptors: <ul style="list-style-type: none"> Marine mammals; Basking shark; Otters; and Seabirds. 	MEA: Section 4.3	Audit	Implement
Cable Installation	Pollution Prevention	Shipboard Oil Pollution Emergency Plans	Control measures and Shipboard Oil Pollution Emergency Plans (SOPEP) will be in place and adhered to under MARPOL Annex I requirements for all vessels. The SOPEPs will help to ensure that the potential for release of pollutants from construction, operation and decommissioning is minimised. In the event of an accidental fuel release occurring appropriate standard practice management procedures will be implemented accordingly.	As per the MARPOL 73/78 requirement under Annex I, all ships with 400 gross tonnage and above must carry an oil prevention plan as per the norms and guidelines laid down by International Maritime	Audit	Demonstrate vessels are compliant with requirement, and SOPEPs up to date.



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
			<p>Vessels will be equipped with waste disposal facilities (sewage treatment or waste storage) IMO MARPOL Annex IV Prevention of Pollution from Ships standards.</p> <p>A Waste Management Plan will be developed and implemented to ensure the waste hierarchy is followed and all waste is sent onward to recycling or disposal via a licenced waste route.</p> <p>Additionally, all recovered debris will be taken ashore and sent for appropriate recycling or disposal at a licenced waste handling facility.</p> <p>A Waste Management Strategy documenting and mapping each step in the process (i.e. location and company managing waste) will be developed and will define individual roles and responsibilities.</p>	<p>Organization (IMO) under Marine Environmental Committee (MEPC) Act.</p> <p>MEA Section 4.3</p>		<p>Demonstrate vessels are compliant with requirement.</p>
			<p>Ballast water discharges from vessels will be managed under International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (Ballast Water Management (BWM) Convention).</p> <p>The BWM Convention, adopted in 2004, aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments. Measures will be adopted to ensure that the risk of introduction and spread of Invasive Non-Native Species (INNS) during the proposed cable installation activities is minimised, including:</p> <ul style="list-style-type: none"> Adherence to relevant BWM measures, where relevant. Vessels will be issued with an International Ballast Water Management Certificate; Ballast Water Management Plans will be provided by contracted vessels in accordance with Regulation B-1 of the Convention, alongside Ballast Water Record Books as described by BWM Regulation B-2; All vessels will consider the requirements of MEPC.207(62) guidelines, including for example the implementation of a biofouling management plan, and records of biofouling management practices kept in a biofouling record book; and All vessels will have an International Anti-Fouling System Certificate (as appropriate). 	<p>MEA: Section 4.3</p>		<p>Demonstrate vessels are compliant with requirement.</p>
	Marine species	non-native	<p>IMO Ballast Water Convention</p>			
			<p>Use of Clean Materials</p>	<p>MEA: Section 4.3</p>		<p>Implement</p>
			<p>Only materials free from organic contaminants shall be used to reduce the risk of INNS. Monitoring surveys will be undertaken to determine the colonisation of cable protection measures from INNS.</p> <p>All equipment used in the proposed cable installation activities (e.g., ROVs), will be cleaned with freshwater prior to arrival on site.</p> <p>The following measures will be followed to prevent the potential spread of <i>S. muticum</i>:</p> <ul style="list-style-type: none"> The intertidal excavation corridor shall be limited to 20 m (10 m either side of the cable route) (MHWS to MLWS) and will not overlap with any rocky locations where there is potential for <i>S. muticum</i>, including the areas where this species was identified (i.e., Barra landfill around TR01 and TR03). In the subtidal region beyond MLWS, the cable will be surface laid outwith the rocky areas where <i>S. muticum</i> was found (~ 25 m away); During the anchor/spudding associated with the split pipe installation rocky areas will be avoided by a buffer of 10 m; Material excavated in the vicinity for <i>S. muticum</i> is expected to be soft sediment and largely backfilled after the cable is buried; and 	<p>MEA: Section 4.3</p>		<p>Demonstrate vessels are compliant with requirement.</p>
			<p>Additional INNS measures for <i>Sargassum muticum</i></p>			



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
			<ul style="list-style-type: none"> Cable pull will be conducted in an order which maintains proximity from the known areas where <i>S. muticum</i> is present and ensures the cable tension is sufficient for there to be no interaction with <i>S. muticum</i>. 			
		Fisheries Liaison	<p>Employment of a Fisheries Liaison Officer (FLO) will ensure all commercial fisheries operators in the vicinity of the Project will be proactively and appropriately communicated with in terms of the proposed installation activities.</p> <p>Notice to Mariners (NTMs), local notifications to marine users, Kingfisher bulletins, Radio Navigational Warnings, and/or broadcast warnings will be promulgated in advance of any proposed works. The notices will include the time and location of any work being carried out, and emergency event procedures.</p> <p>Notices will also be issued if any OoS cables / boulders are removed or moved and chart updates will be provided.</p>	MEA: Section 4.3	Implement	Provide information and updates as required
		Navigation Warnings	<p>All vessels will operate in compliance with International Regulations for the Prevention of Collision at Sea (IPPCS) (IMO, 1972), including displaying appropriate lights and shapes, and the International Regulations for the Safety of Life at Sea (SOLAS). The SOLAS convention requires signatory flag states to ensure that ships flagged by them comply with at least these standards. In relation to the proposed cable installation activities its compliance will ensure navigational safety.</p>	MEA: Section 4.3	Implement	Provide information and updates as required
	Commercial Fisheries and Other Sea Users		<p>A guard vessel or small support vessel, marshalling a 500 m Recommended Clearance Zone (RCZ) may be used during the installation campaign where a potential risk to the asset or danger to navigation has been identified. The requirement for a guard vessel will be considered through consultation with the Western Isles Council Harbour Authority, ferry operator CalMac, and Installation Contractor.</p> <p>The RCZ may be reduced to 250 m (or other agreed distance) for the CalMac Ferries and vessels carrying Western Isles Council Harbour Authority pilots. This will be implemented through ongoing communications and agreements between the Western Isles Council Harbour Master, the CalMac ferry operator, SHEPD and the cable installation contractor.</p>	MEA: Section 4.3	Audit	Implement
		Navigational Safety	<p>Compliance with the FLMAP Delivery Programme and how SHEPD co-exist with other marine users. Specifically:</p> <ul style="list-style-type: none"> Ensure that notice and information distribution is not less than 20 days, if possible, for individual vessels mobilisations; Regular liaison and updates by Fishing Industry Representative with local fishermen of proposed timings with confirmations when operations are finalised; and Regular liaison and updates by FLO with other legitimate sea users, including shellfish farmers, of proposed timings with confirmations provided when planned works are finalised. 	MEA: Section 11.3	Audit	Implement
	Commercial Fisheries and Other Sea Users		<p>Ongoing consultations with ports and harbour authority (Western Isles Council) to ensure continued awareness and communication of installation and harbour specific details relevant to minimising disruption. Ongoing consultation with fisheries as detailed within the Outer Hebrides FLMAP to discuss the potential impacts as a result of the installation activities.</p> <p>Engagement with ferry operator CalMac and regular runners ensures awareness of the installation details which minimises disruption. Installation maintenance and decommissioning schedules arranged to minimise impact on ferry schedules. This may extend to reducing RCZs around cable installation vessels for the CalMac ferries, and working during night-time hours where practicable.</p>	MEA: Section 12.3	Ensure consultation is held with ports and harbour authority, including Stormway Port Authority.	Consider outcomes of discussions and ensure the FLO and FIR are provided the relevant information regarding Project progress.



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
			Please refer to the NRA (Xodus Document No. A-101090-S00-A-REPT-002).			
	Marine Survey	As Built Information	As built information will be collated to ascertain the actual position of the proposed cables, associated protection measures and locations of potential snagging risks.	MEA: Section 4.3	Ensure Contractor's scope of works included in scope of works.	Collate as-built information as per scope of works.
	Historic Environment	Reporting Wrecks	The location of any wrecks or features of potential archaeological significance will be provided to HES, and the UKHO.	MEA: Section 10.4	Submit data to relevant stakeholders.	
Post Installation	Close Out Reporting	Marine Licence EPS Licence	A close out report will be submitted to MD-LOT providing details of actual material deposits on the seabed, and as built locations of the proposed cables.	N/A	Submit report to MD-LOT.	Provide relevant information and data in agree format.
			Marine Mammal reports to be provided to MD-LOT for geophysical survey activities.	N/A	Submit report to MD-LOT as required.	
	Updating Stakeholders	Provision of As-built Survey Data	As built survey data will be provided to the UKHO and Kingfisher for inclusion on Admiralty Charts and the Kingfisher Information Service – Offshore Renewable and Cable Awareness (KIS-ORCA) charts.	MEA: Section 4.3	Submit data to relevant stakeholders.	