



Scottish Hydro Electric Power Distribution plc

Mossbank - Yell Emergency Cable Replacement Marine Construction Environmental Management Plan

ASSIGNMENT A200758-S00
DOCUMENT A-200758-S00-A-REPT-004



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[Redacted]

A01	28/01/2025	Issued for Use	AF	JA	JA
R01	16/01/2025	Issued for Review	GK	AF	JA

REV	DATE	DESCRIPTION	ISSUED	CHECKED	APPROVED	CLIENT
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1 INTRODUCTION

Scottish Hydro Electric Power Distribution plc (SHEPD) holds a licence under the Electricity Act 1989 for the distribution of electricity in the north of Scotland including the Islands. 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 ensure a safe, secure and reliable supply to customers.

In May 2024, SHEPD identified that one of the subsea cables connecting Mainland Shetland (Mossbank) to Yell had faulted. The cable was installed in 2009 (Mossbank – Yell North 1). In this location there is also a currently active subsea cable that was replaced in 2019 (Mossbank – Yell South 2). A subsequent options evaluation process recommended complete replacement of the 2009 faulted cable. The proposed cable replacement ('the Project') will involve the installation of a new 33 kilovolt (kV) subsea cable and associated cable stabilisation and protection, together with the removal of the intertidal sections of the existing faulted and Out of Service (OoS) cables, where required. Installation of this cable is required to replace the existing faulted cable and restore connection to the power distribution network providing supply to the communities on Yell, Unst and Fetlar. The cable installation is currently planned to be undertaken in summer 2025, i.e., ahead of winter and anticipated deterioration in weather conditions.

The proposed replacement cable will have an approximate length of 4 kilometres (km) and it will be constructed between the landfalls at Mossbank (Mainland Shetland) and Hoga (Yell) to tie into existing distribution networks.

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-200758-S00-A-REPT-002). The MEA presents 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; and
- Commercial Fisheries and Other Sea Users
- Shipping and Navigation

This Construction Environmental Management Plan (CEMP) is designed to provide a consolidated point of reference for SHEPD and their marine contractors. It ensures all environmental mitigation measures identified by the MEA and supporting documents are effectively disseminated to, and implemented by the project team during Project activities. The CEMP is informed by, and should be read in conjunction with the following documents:



- Mossbank – Yell Emergency Cable Replacement Project Description;
- The Project’s Marine Licence;
- The Project’s European Protection Species (EPS) Licence;
- The Project’s Works Licence under the Zetland County Council Act 1974;
- Mossbank – Yell Emergency Cable Replacement: MEA:
- Shetland Regional Fisheries Liaison Mitigation Action Plan (FLMAP);
- How SHEPD co-exists with other marine users document;
- Operation, Inspection, Maintenance and Decommissioning (OIMD) Strategy; and
- Mossbank – Yell Cost Benefit Analysis (CBA) Summary Report.

2 SCOPE

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

- Pre-installation surveys to identify debris / obstructions, where required;
- Pre-Lay Grapnel Run (PLGR) and bolder clearance, where required;
- Removal of OoS cable(s) in the intertidal area to facilitate installation of the replacement cable, where required;
- Landfall establishment;
- Cable installation;
 - The subsea cable will be surface laid below Mean Low Water Springs (MLWS);
 - In the intertidal zone, cable installation will be via open cut trench between MLWS and MHWS at each landfall location;
- Cable protection and stabilisation installation;
 - Cable protection measures will include split pipe, rock bags and concrete mattresses;
 - Sea earths and associated protection will also be required; and
- Landfall re-instatement; and
- Post-installation surveys.



3 REVIEW AND UPDATE PROCEDURE

By its nature the CEMP is a living 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. Such, it is important that a dialogue with MD-LOT is maintained throughout the Project. The CEMP will also be provided to the Shetland Islands Council (SIC) as part of a Works Licence application.

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

- SHEPD's project manager;
- Contractor's project manager;
- SHEPD's environmental consultant;
- SHEPD's client representative (where appropriate);
- MD-LOT; and
- SIC.

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

- Award of Marine Licence and Works 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 and SIC if substantive changes (which could be a change governed under the Management of Change (MOC) process) to the CEMP are required.

4 DOCUMENT STRUCTURE

The mitigation requirements in this 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

PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
		The CEMP must be available to all personnel.	Copies of the CEMP must be available on all survey and installation vessels, and in project offices.	N/A	Audit	Ensure copies made available.
	Environmental Awareness	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.
		Copies of all licences and permits must be available at relevant project locations.	Copies of relevant licences and permits must be available on all vessels and in project offices. This includes: <ul style="list-style-type: none"> • Marine Licence; • Works Licence; and • EPS Licence. 	N/A	Provide copies of licence, and audit.	Ensure copies maintained in relevant locations.
	Spill Response	Emergency Spill Response Plan	An Emergency Spill Response Plan must be developed prior to operations commencing, and should include the following details: <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	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. Additionally, all recovered debris will be taken ashore and sent for appropriate recycling or disposal at a licenced waste handling facility.	MEA: Section 4.3 www.netrecs.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	The following measures will be implemented during all survey works: <ul style="list-style-type: none"> • All vessels will adhere to the provisions of the Scottish Marine Wildlife Watching Code (SMWWC) during installation activities; NatureScot developed the Code as part of its duties under the Nature Conservation (Scotland) Act 2004. The SMWWC was first published in 2006 and was revised in 2017. The code aims to minimise disturbance to marine wildlife); and • All vessel 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	Audit	Implement, and ensure copies of the guidance are available on survey vessels.
Detailed Route Engineering	Project Design	Cable protection and stabilisation	Deposit materials (mattresses, rock bags and split pipe) may be utilised for asset stabilisation.	Mossbank – Yell Emergency Cable Replacement Project Description MEA: Section 3	Ensure final design aligns to these parameters.	Implement during project design.



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
Detailed Route Engineering	Historic Environment	Avoidance of Wrecks and Archaeological Sites	<p>Surveys / Design</p> <p>Detailed geophysical and benthic surveys were conducted in 2018 for the proposed cable corridor to inform detailed route engineering for the installed 2019 cable and to identify locations of sensitive seabed features and species. The 2018 survey data will be used to identify the presence of sensitive receptors in the cable corridor, to allow for micro siting of the cable to avoid the features where practicable. Use of the 2018 survey data has been discussed and agreed with NatureScot in October 2024. Use of cable stabilisation materials will be minimised to reduce the seafloor footprint while maintaining adequate protection and stabilisation of the cable.</p> <p>A pre-installation survey may be conducted using a Remotely Operated Vehicle (ROV) to assess seabed conditions and the presence of debris / obstructions / environmental and other sensitivities within the cable corridor. Any anthropogenic obstructions or debris will be removed, if possible. A work class ROV or PLGR may be used to remove debris. In the nearshore area, a diver may be required to remove debris. Obstructions or debris will be removed only when required. If large boulders are relocated within the cable corridor appropriate notifications will be provided.</p> <p>The subsea cable will be surface laid below MLWS. No submarine trenching will be conducted. The intertidal cable sections at the landfall locations at Mossbank and Hoga (Yell) will be buried via OCT using land-based excavators.</p> <p>Furthermore, any Unexploded Ordnance (UXO) encountered would be avoided. As part of the route engineering process, a detailed UXO risk assessment within the cable corridor will be carried out and mitigations captured as part of the installation campaign. Any requirement for UXO clearance will be subject to a separate marine licence.</p>	<p>Mossbank – Yell Emergency Cable Replacement Project Description</p> <p>MEA: Sections 3, 4.1, 4.3, 7.3</p>	<p>Ensure included in Contractor's scope of works.</p>	<p>Pre-installation surveys as per scope of works.</p>
Cable Installation	Others	Pre-installation Otter Surveys Avoidance of Otter Holts, Laysups and Couches Trench Design	<p>For nearshore and intertidal works, the following other mitigations will be implemented:</p> <p>Pre-installation otter surveys will be conducted at the cable landfall areas and within a 200 m mitigation zone to ascertain the presence of otters. During the landfall works an Ecological Clerk of Works (ECOW) will be present to monitor otter activity and to ensure a buffer of at least 40 m is maintained between the proposed works and any otter holts, laysups and couches which may be present. Additionally, 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.</p> <p>Should pre-construction otter surveys identify otter features, SHEPD will consult with NatureScot ahead of works commencing to determine whether a disturbance licence for otter is required.</p> <p>All works with the potential to impact otter will be carried out in accordance with requirements of the terrestrial consent conditions including SHEPD's Otter Protection Policy.</p>	<p>MEA: Section 4.3, 5.6, 7.4</p>	<p>Conduct pre-installation otter surveys at landfall locations.</p> <p>Ensure appointment of appropriately qualified ECOW is included in Contractor's scope of works.</p> <p>Review final design against any identified locations of otter holts, laysups and couches.</p> <p>Progress discussions with NatureScot, should otter be identified during pre-installation landfall surveys to ascertain licence requirements.</p>	<p>Consider survey data and treat confirmed locations of otter holts, laysups and couches as hard constraints.</p> <p>Adhere to licence requirements, should a licence for otter disturbance be required following potential consultation with NatureScot.</p>
		Vessel Speed	Installation vessels will be slow-moving, travelling in well-defined routes and collision risk is generally considered to be low for marine mammals, otters and seabirds.	MEA: Section 4.3, 5.6, 7.4, 9.4	Audit	Implement
	Benthic Habitats	Deployment of Anchor Chains on the Seabed Will be Kept to a Minimum	Reduces the potential for disturbance to benthic habitats and species including those which utilise the seabed.	MEA: Section 4.3	Review method statements to ensure efforts to minimise anchoring are included.	Consider and implement alternatives to anchoring where possible.



PHASE		ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
Ornithology	Pollution Prevention	Vessel Lighting	Lighting on-board all installation vessels will be appropriately directed and kept to the minimum level required to ensure safe operations. This will minimise disturbance to seabird species.		MEA: Section 4.3, 9.4	Audit	Implement
		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. Production of this plan 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 Organization (IMO) under Marine Environmental Protection Committee (MEPC) Act. Production of this plan will help to ensure that the potential for release of pollutants from installation, operation and decommissioning is minimised. In the event of an accidental fuel release occurring appropriate standard practice management procedures will be implemented accordingly.		Audit	Demonstrate vessels are compliant with requirement and SOPEPs up to date.
Sewage Treatment and Storage	Sewage Treatment and Storage		Vessels will be equipped with waste disposal facilities (sewage treatment or waste storage) IMO MARPOL Annex IV Prevention of Pollution from Ships standards.		MEA Section 4.3	Audit	Demonstrate vessels are compliant with requirement.
			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. Additionally, all recovered debris will be taken ashore and sent for appropriate recycling or disposal at a licenced waste handling facility.				
Marine non-native species	IMO Ballast Water Convention		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). 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 Invasive Non-Native Species (INNS) introduction during cable installation activities is minimised. Larger vessels will utilise anti-fouling measures in order to reduce INNS impacts. Anti-fouling measures also help reduce the fuel consumption of the vessels being used which will in-turn reduce the volume of emissions.		MEA: Section 4.3, 6.4, 8.4	Audit	Demonstrate vessels are compliant with requirement.
			The rock contained within the rock bags will be terrestrially sourced, clean and free from organic material. Concrete mattresses and clump weights will be new, and free from organic material. These measures will reduce the risk of INNS. 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 Project operations. This will be managed through the Shetland Regional Fisheries Liaison Management Action Plan (FLMAP). 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 contact details for the vessels. The NtMs will ensure navigational safety and minimise the risk of equipment snagging. The NtMs will be distributed via the Sullom Voe Harbour Authority. Notices will also be issued if any large boulders are relocated within the licenced installation corridor.	MEA: Section 4.3, 8.4	Audit		
Commercial Fisheries, Other Sea Users and Shipping and Navigation	Use of Clean Materials	Fisheries Liaison			MEA: Section 4.3, 11.3, 12.4	Implement	Provide information and updates as required
		Navigation Warnings			MEA: Section 4.3, 11.4, 12.4	Implement	Provide information and updates as required
Aids to Navigation	Aids to Navigation		In consultation with the NLB and subject to their Statutory Sanction, it will be determined whether any additional marker beacons (4-m poles with 2.5 m tall yellow flash mark diamonds) are required for established landfalls. These markers will be inspected and maintained for the life of the cable.		MEA: Section 4.3, 11.3, 12.4		Implement



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
		Navigational Safety	All vessels will operate in compliance with International Regulations for the Prevention of Collision at Sea (IRPCS) (IMO: 1972) and the International Regulations for the Safety of Life at Sea (SOLAS).	MEA: Section 4.3, 11.3, 12.4	Audit	Implement
		Navigational Safety	A guard vessel or small support vessel, marshalling a 500 m 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 Sullom Voe Harbour Authority and Installation Contractor. The RCZ may be reduced to 250 m (or other agreed distance) for the Yell Ferries and vessels carrying Sullom Voe Harbour Authority pilots. This will be implemented through ongoing communications and agreements between the Sullom Voe Harbour Master, the Yell ferry operator, SHEPD and the cable installation contractor.	MEA: Section 4.3, 11.3, 12.4	Audit	Implement
		Communication and Consultation	<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 (FIR) with local fishermen of proposed timings with confirmations when operations are finalised; and • Regular liaison and updates by FLO with other legitimate sea users of proposed timings with confirmations provided when planned works are finalised. • Organising an installation phasing workshop to inform commercial fishermen of planned activities. • Distributing weekly notice of operations; • Providing information in plotter format to enable fishermen to easily interpret the information; • Scouting surveys to identify potting areas and any other relevant static gear areas. 	Shetland Regional FLMAP	SHEPD's priority is to identify and pro-actively engage with legitimate sea-users who could be potentially impacted by SHEPD's work.	Implement and ensure the FLO is provided the relevant information regarding project progress.
		Communication and Consultation	Ongoing consultations with SIC ports and harbour authority to ensure continued awareness and communication of installation and harbour specific details relevant to minimising disruption.	MEA: Section 4.3, 11.3, 12.4	Ensure consultation is held with SIC ports and harbour authority.	Consider outcomes of discussions and ensure the FLO is provided the relevant information regarding project progress.
		Communication and Consultation	Ongoing consultation with Shetland Shellfish Management Organisation (SSMO) and Shetland Fishermen's Association (SFA) to discuss the potential as a result of the installation activities.	MEA: Section 4.3, 11.3, 12.4	Ensure consultation is held with SSMO and SFA.	Consider outcomes of discussions and ensure the FLO is provided the relevant information regarding project progress.
		Communication and Consultation	Engagement with ferry operators and regular runners ensures awareness of the installation details which minimises disruption.	MEA: Section 4.3, 11.3, 12.4	Ensure consultation is held with regular runners.	Consider outcomes of discussions and ensure the FLO is provided the relevant information regarding project progress.
		Decomification of Activity Schedules with Ferry Schedules	Installation maintenance and decommissioning schedules arranged to minimise impact on ferry schedules. This may extend to working in night-time hours where practicable	MEA: Section 4.3, 11.3, 12.4	Work with Contractor to minimise disruption to ferry services.	Implement
	Historic Environment	Protocol for Archaeological Discovery (PAD)	It is acknowledged that there is the potential that archaeological features could be present within the cable corridor, which are not identified by pre-installation surveys. In order to account for this, if conditioned by the Marine Licence, a PAD will be implemented during the cable installation activities. The role of the Implementation Service described within the above protocol would be replaced by an archaeological service provider appointed by SHEPD or their Contractor.	MEA Section 4.3, 10.4	Audit	If required, implement, and ensure PAD is available on installation vessels.
	Marine Survey	As Built Information	As built information will be collated to ascertain the actual position of the cable, associated protection measures and locations of potential snagging risks. 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. This will ensure navigational safety and minimise the risk of equipment snagging.	MEA: Section 4.3, 11.3, 12.4	Ensure included in Contractor's 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 United Kingdom Hydrographic Office (UKHO).	MEA: Section 4.3, 10.4	Submit data to relevant stakeholders.	Provide SHEPD with relevant information and data in agree format.



PHASE	ASPECT	MEASURE	REQUIREMENTS	ADDITIONAL INFORMATION	SHEPD RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
Post-Installation	Close Out Reporting	Marine 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 cable.	N/A	Submit report to MD-LOT.	Provide SHEPD with relevant information and data in agreed format.
	Close Out Reporting	EPS Licence	Marine Mammal reports to be provided to MD-LOT for geophysical survey activities.	N/A	Submit report to MD-LOT as required.	Provide SHEPD with relevant information and data in agreed format.
	Updating Marine 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; 11.3; 12.4	Submit data to relevant stakeholders.	Provide SHEPD with relevant information and data in agreed format.