Environmental Impact Assessment Report
Volume 4: Outline Cable Plan

MarramWind Offshore Wind Farm

December 2025

MarramWind

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Contents

1. Introduction

1.1 Overview

1.1.1.1 This Outline Cable Plan (CaP) has been produced along with the Environmental Impact Assessment Report (EIA) Report and aims to outline the cable routing, burial and protection for the MarramWind Offshore Wind Farm Project (hereafter referred to as 'the Project').

1.1.1.2 This Outline CaP applies only in the offshore environment below Mean High Water Springs (MHWS).

1.1.1.3 The Outline CaP is related to the mitigation measure M-029 of **Volume 3, Appendix 5.2: Commitments Register**.

1.2 Project background

1.2.1.1 MarramWind Offshore Wind is wholly owned by Scottish Power Renewables UK Limited (SPR). MarramWind Limited, a subsidiary of SPR, is the Applicant for the Project.

1.2.1.2 The Project is a proposed floating wind farm located in the North Sea, with a grid connection capacity of up to 3 gigawatts (GW). The location of the Project is determined by the Option Area Agreement (OAA), which is the spatial boundary of the Northeast 7 (NE7) Plan Option within which the electricity generating infrastructure will be located. The NE7 Plan Option is located north-east of Rattray Head on the Aberdeenshire coast in north-east Scotland, approximately 75 kilometres (km) at its nearest point to shore and 110 km at its furthest point. An Option to Lease Agreement (OLA) for the Project within the NE7 Plan Option was signed in April 2022.

1.2.1.3 A summary of the Project is provided in **Volume 1, Chapter 1: Introduction** and a comprehensive description of the Project is provided in **Volume 1, Chapter 4: Project Description.**

1.2.1.4 The Project's offshore infrastructure, located seaward of MHWS, may include the following:

- wind turbine generators (WTGs), including floating units (platforms and station keeping system);
- array cables;
- subsea distribution centres;
- subsea substations;
- offshore substations;
- reactive compensation platform(s) (RCPs) (if required); and
- offshore export cables to connect the wind farm area to the landfall(s).

1.2.1.5 The EIA Report accompanies applications for offshore consents, licences and permissions for the Project to Marine Directorate - Licensing Operations Team (MD-LOT) under Section 36 (s.36) of the Electricity Act 1989, the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009, for the offshore infrastructure seaward of MHWS.

1.2.1.6 The EIA Report also accompanies an application to Aberdeenshire Council for planning permission in principle consent under The Town and Country Planning (Scotland) Act 1997, for the onshore infrastructure landward Mean Low Water Springs (MLWS).

1.2.1.7 There are four sets of EIA regulations applicable to the Project: the Electricity Works (EIA) (Scotland) Regulations 2017 for offshore generating stations requiring s.36 consent; the Marine Works (EIA) (Scotland) Regulations 2017 and the Marine Works (EIA) Regulations 2007 for marine licence applications within Scottish territorial waters (0-12 nautical miles) and offshore waters (12-200 nautical miles) respectively; and the Town and Country Planning (EIA) (Scotland) Regulations 2017 for planning applications submitted to Aberdeenshire Council for onshore infrastructure located landward of MLWS.

1.3 Purpose of the Outline CaP

1.3.1.1 The purpose of the CaP is to outline the cable routing, burial, and any additional protection as well as methods for post-installation cable monitoring. Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the cable burial risk assessment and detailed within the CaP when available.

1.3.1.2 The broad objectives of the CaP are as follows:

- to include details of the need, type, quantity and installation methods for cabling;
- to provide a mechanism to ensure that measures to mitigate potentially adverse environmental impacts are implemented during all construction and operation and maintenance (O&M) works;
- to promote and meet good construction and O&M practice standards throughout construction of the Project; and
- to provide a framework for compliance auditing and inspection to enable the Applicant to be assured that the necessary levels of environmental performance are being met.

1.3.1.3 This Outline CaP will form the basis of the Final CaP which will be finalised and approved post-consent and approved as part of condition discharge prior to construction by Scottish Ministers in accordance with s.36 and associated marine licences.

1.4 Implementation of the Final CaP

1.1.1.1 The Final CaP approved by Scottish Ministers will be incorporated into the contracts for Principal Contractors responsible for the works. All parties involved, including Principal Contractors, Subcontractors and their suppliers, must comply with the relevant provisions of the detailed Final CaP. They are obligated to provide documentation outlining how they will guarantee both the implementation and monitoring of the CaP requirements.

1.5 Scope of the Outline Cable Plan

1.1.1.2 The Outline CaP will cover the following:

- Definition of the cable design envelope, including indicative cable types, quantities, and routing options.
- Overview of installation methodologies, including vessel types, burial techniques, and seabed interaction.
- Preliminary cable burial risk assessment, addressing seabed conditions, sediment mobility, anchor strike risk, and fishing gear interaction.

1.5.1.1 This Outline CaP does not include finalised cable routing, burial depths, or installation schedules, which will be determined through further site investigations and engineering design.

1.6 Other related implementation plans

1.1.1.3 The Outline CaP will be developed with consideration of the content and requirements of other relevant Implementation Plans. These are set out in **Table 1.1** below with details of the linkages.

Table 1.1 Other related implementation plans to the CaP

Implementation plan	Linkage with CaP
Project Environmental Monitoring Programme	The **Project Environmental Monitoring Programme** will set out the Applicant's commitments to monitoring the potential effects of the Project on key receptors and provide detail on how that monitoring will be delivered across all stages of the Project (pre-construction, construction, O&M, and decommissioning). **Volume 4: Outline Project Environmental Monitoring Programme** has been submitted with the application.
Construction Method Statement	The **Construction Method Statement** will include: details of the commence dates, duration and phasing of key elements of construction, working areas, the construction procedures and good working practices; details of the roles and responsibilities; and details of how the construction related mitigation step proposed are to be delivered. **Volume 4: Outline Construction Method Statement** has been submitted with the application.

2. Location and Layout of Cables

2.1 Overview

2.1.1.1 The 3 gigawatts (GW) OAA will be broken down into smaller project phases for a staged design and build of the MarramWind Offshore Wind Farm. Options for the optimal transmission technology selection and sizing of each phase of the Project are still being considered, and the location of the offshore substations and WTGs are still to be determined.

2.1.1.2 Cable locations and layouts will be confirmed once the Project phase capacities and technologies are finalised, and positions of offshore platforms and WTGs are known.

2.2 Array cables

2.2.1.1 The array cables are used to connect WTGs to each other in a distribution system expected to be at either 66kV or 132kV. There are several options for arranging the connections which could include traditional arrangements such as daisy chain strings, branches in the strings, or arrangements such as loops, or star designs that can offer greater redundancy.

2.2.1.2 All these options will be explored in an optimisation exercise to reduce the length of cable required and the cross-sectional area of the cables. The total length of array cable between WTGs and the offshore substations has been estimated to be a maximum of 680 km but this is expected to be reduced during the detailed design stage.

2.2.1.3 The total amount of cabling required will also include the vertical lengths to take the cable encased within the J-tubing from the bell-mouth to the full height of the offshore substations to the switchgear connections, and also the length of dynamic cables that are required from the floating WTG platforms to the seabed.

2.3 Export cables

2.3.1.1 The WTGs and offshore substations will be connected to the onshore transmission works by either High Voltage Alternating Current (HVAC) cables (275kV), High Voltage Direct Current (HVDC) Cables (±320kV, ±525kV) or a combination of HVAC and HVDC depending on project capacity options selected.

2.3.1.2 A maximum of five export cables are considered for the project. The offshore export cables will be located within the offshore export cable corridor. The corridor is approximately 107 km long from the landfall location to the OAA boundary facing the shore. Additional export cable length will be required within the windfarm area once the offshore substation position(s) are known.

3. Technical Specification of Cables

3.1 Array cables

3.1.1 Overview

3.1.1.1 The array cables will typically comprise of a 3 core, 66kV armoured submarine power cable construction typically used to support medium voltage connections between offshore installations. Similar arrangements of 132kV cables are also under consideration if a higher power capacity is required to accommodate the possibility of greater efficiencies for larger turbines.

3.1.2 Cable components

3.1.2.1 The main components of the array cables are shown in **. Plate** 4.1 for standard buried cables installed in the seabed, and in **Plate 4.2** for dynamic cables that are required for the free span between the floating turbines and the seabed touchdown. The dynamic cables are required to be more mechanically robust to withstand the additional forces from the movement of the platform and deep water (currents, tides, waves).

3.1.2.2 The cable design shall consider the full load, transient and fault capability requirements for each of the cable circuits within the overall electrical system.

3.1.2.3 The cables are described briefly below. The array cables will be designed in accordance with industry standards as set out in the relevant International Electrotechnical Commission (IEC) and DNV-GL guidance.

Plate 4.1 Array typical cable design (Forti and Martinelli, 2016)

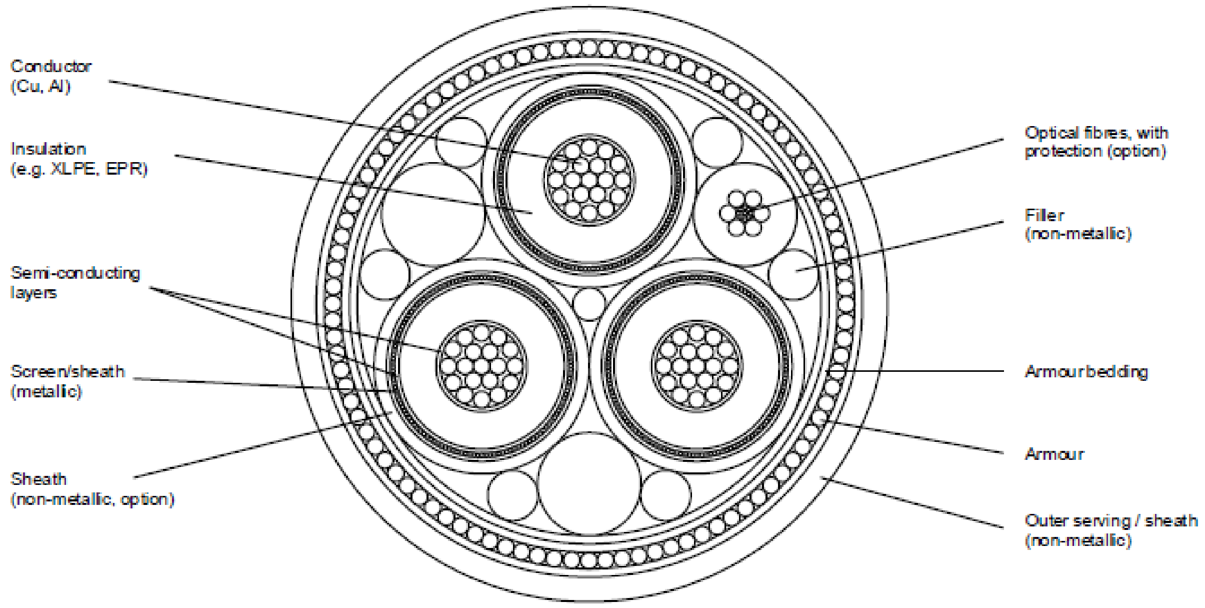
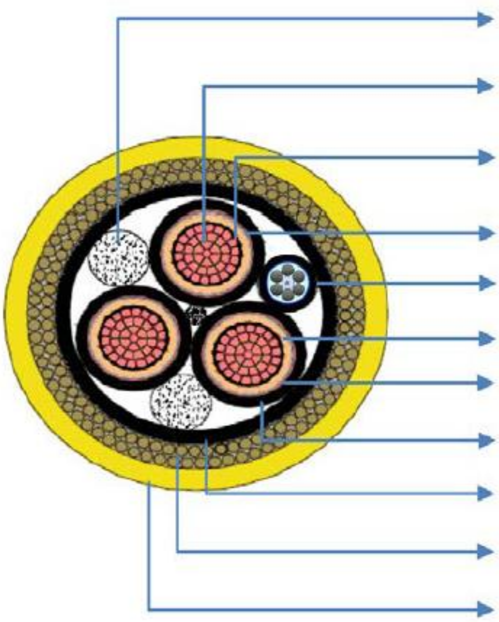


Plate 4.2 Array typical cross section for dynamic cable with additional armouring (Jensen *et al*., 2015)



Electromagnetic fields for HVAC

3.1.2.4 A desk-based study on electromagnetic field (EMF) levels associated with the array cables has been carried out and will also be confirmed later by the selected cable manufacturer when the layout design is more mature.

3.1.2.5 The study modelled the magnetic field magnitudes at a given distance from the array cables considering the dynamic cables required for floating turbine connection. Worst-case calculations are presented within **Volume 1, Chapter 9: Electromagnetic Fields.**

3.2 Offshore export cables

3.2.1 Overview

3.2.1.1 The offshore export cables will be either HVAC, HVDC or a combination of both depending on project phasing options and most appropriate and economic technology selection for capacity and length of export connections. The export cables may comprise of 3 core 275kV armoured submarine power cables for the HVAC designs or single core HVDC cables which could be at ±320kV or ±525kV depending on HVDC technology selection (symmetrical monopole or bipole respectively).

3.2.1.2 The offshore export cables will be designed in accordance with industry standards as set out in the relevant IEC and DNV-GL guidance.

3.2.2 Export cable components HVAC

3.2.2.1 The main components of the HVAC offshore export cables are shown in **Plate 4.3** and are described briefly below.

Plate 4.3 Single Armour Submarine Export Cable 275 kV (Xodus Group, 2019)

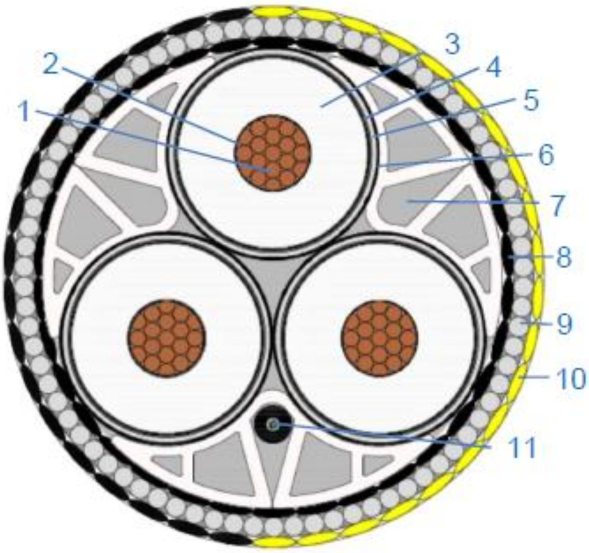


Table 4.1 Single Armour Submarine Export Cable Component Identification (Prysmian, 2020)

	Component	Description
1	**Conductor**	Stranded round compacted copper conductors' class 2, longitudinally water blocked
2	**Conductor screen**	Extruded semi conductive compound
3	**Insulation**	XLPE
4	**Insulation screen**	Extruded semi conductive compound
5	**Metallic screen**	Extruded Lead sheath
6	**Anticorrosion sheath**	Extruded PE sheath
7	**Fillers**	Extruded PE shaped fillers
8	**Armour Bedding**	Polypropylene Yarns
9	**Armouring**	One layer of non-magnetic wires
10	**Outer protection**	Polypropylene Yarns
11	**Optical unit**	Up to 48 fibres for each unit

Electromagnetic fields for HVAC

3.2.2.2 A desk-based study on electromagnetic field (EMF) levels associated with the HVAC export cables has been carried out and will also be confirmed later by the selected cable manufacturer when the layout design is more mature.

3.2.2.3 The modelling outputs predict that the EMFs emitted by the export cables, will reduce rapidly with distance away from the cable surface. Worst-case calculations have been presented for the largest cable current expected to be able to transmit 400MW at 275kV HVAC. The maximum current rating will depend on seabed conditions, thermal resistivity of seabed material, ambient sea temperature, reactive power compensation strategies, and final length of the cable. etc. Calculations are presented within **Volume 1, Chapter 9: Electromagnetic Fields.**

3.2.3 Export cable components HVDC

3.2.3.1 The main components of the HVDC offshore export cables are shown and described briefly in **Plate 4.4.** An example of how HVDC symmetrical monopole cables, with fibre optics can be bundled together is shown in **Plate 4.5**.

Plate 4.4 HVDC Submarine Export Cable (Prysmian, 2024)

Plate 4.5 HVDC Symmetrical Monopole Bundled Cable Installation (Europacable, 2012)

Electromagnetic fields for HVDC

3.2.3.2 A desk-based assessment on EMF levels associated with the HVDC export cables has been carried out and will also be confirmed later by the selected cable manufacturer when the design is more mature.

The EMF will depend on the laying arrangement of the cable poles (+ve and -ve) which could be bundled together for a symmetrical monopole HVDC, or installed in separate trenches, with or without metallic return cables, for HVDC bipole. Calculations are presented within **Volume 1, Chapter 9: Electromagnetic Fields.**

4. Cable Burial

4.1 Cable burial risk assessment

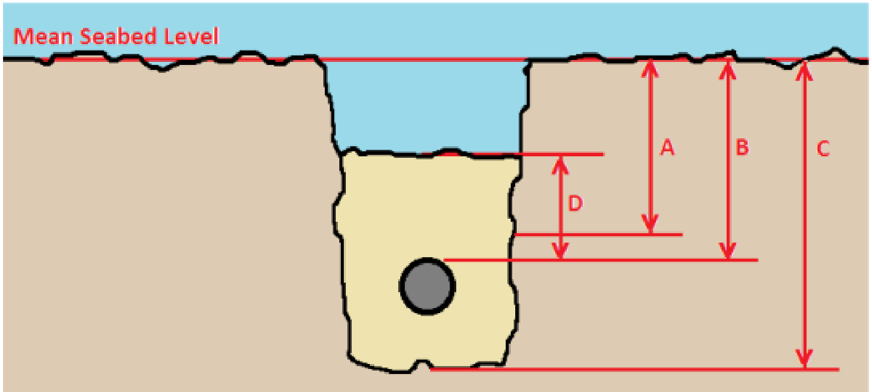
4.1.1.1 A Cable Burial Risk Assessment (CBRA) will be undertaken to identify potential threats to the cables and propose suitable target burial depths, or recommendations for localised additional protection (i.e. rock placement, concrete matressing), to minimise risk from these threats.

4.1.1.2 A CBRA is a risk-based assessment undertaken to help determine a minimum depth of lowering (DoL) for subsea cables, such that threats to the cable and to other marine users (e.g. interactions between anchors or fishing gear with cables) can be avoided.

4.1.1.3 These studies will be used to establish the required minimum burial depth of each cable to provide a reasonable level of protection for the lifetime of the windfarm.

4.1.1.4 For this Outline CaP, cable burial depth will be described as the DoL. The DoL is the depth measured from the top of the cable to the surrounding mean seabed level. See **Plate 5.1** for terminology graphic.

Plate 5.1 Cable Depth of Lowering (DoL) relative to Mean Seabed Level (MSBL) (Maritime Journal, 2016)



A **Recommended Minimum Depth of Lowering**
B **Target Depth of Lowering**
C **Target Trench Depth**
D **Depth of Cover**

4.1.1.5 The CBRA will be undertaken by in accordance with relevant industry guidance at the time of completion.

4.1.1.6 The CBRA method reviews threats based on their anticipated frequency (e.g. how often anchor strike can be expected to occur in the area) and consequence (e.g. to what depth anchors may penetrate the seabed).

4.1.1.7 Once the frequency and consequence of the identified threats is understood, the CBRA investigates how the risk associated with that threat can be mitigated to an acceptable level (as determined by DNV-GL standards) by cable burial, based on known ground conditions (as informed by site survey data and prevailing hydrodynamic conditions (i.e. sediment mobility).

4.1.1.8 The CBRAs consider the following main threats:

- Anchor strike: vessel data to be analysed to understand vessel activity in the Project area based on site-specific AIS and radar data and coastal AIS data, and the anchor types and sizes associated with this activity identified, allowing an understanding of likely depths of anchor penetration.
- Fishing gear interactions: fisheries data to be analysed to understand fishing activity in the Project area, the types of gear in use and the likely depths of gear penetration based on the most recent data collated by the Marine Management Organisation (MMO) and the International Council for the Exploration of the Sea.
- Sediment mobility (considered a secondary threat): Existing seabed data to be analysed to understand the potential for mobile bedforms and their thickness. Additional surveys will be necessary before this can be assessed.

4.2 Anchor strike

4.2.1.1 A risk assessment of anchor strike will be undertaken using Project-specific marine traffic survey data gathered during both winter and summer months across several years. Data will include marine traffic information gathered using Automatic Information System (AIS) and radar during offshore survey work and shore-based AIS information on marine traffic. The maximum anchor penetration depth based on the vessel types present within the OAA and along the offshore export cable corridor. Conservative worst-case scenarios will be considered based on the seabed conditions.

4.3 Fishing gear interaction

4.3.1.1 A risk assessment of fishing gear interaction will be undertaken based on MMO fisheries data and other data sets and the outcomes of consultations.

4.3.1.2 These data sets will include a detailed profile of the vessels operating from key fishing ports and within the local and regional study areas, including number of vessels, length and age profiles, as well as descriptions of the fishing methods deployed. Any updates to the temporal and spatial patterns of fishing activity will be used to ensure the most recent overview of the baseline.

4.3.1.3 The probability of fishing gear and cables interacting is dependent upon gear type and dimensions; for the purposes of the precautionary assessment, trawling using otter boards may be assumed as this is often considered the worst case.

4.3.1.4 To mitigate the risk of interactions with fishing gear and based on a probabilistic assessment considering the type and frequency of fishing activity a recommended DoL for different seabed conditions will be recommended.

4.4 Sediment mobility

4.4.1.1 The CBRAs undertaken for both the export cable and array cables also consider secondary hazards that may result in cable fatigue or abrasion. For example, surface laid cables would be subject to loading from waves and currents, and this could result in cable migration across the seabed. Excessive movement on the seabed could cause abrasion and / or fatigue issues. Buried cables may be subject to exposure where there is a high degree of seabed mobility.

4.4.1.2 An assessment of bathymetry data and physical processes in the OAA will be performed to identify large mobile bedforms. Analysis of seabed conditions and local hydrodynamics will indicate a maximum thickness of potentially mobile bedforms within the OAA.

4.4.1.3 Along the offshore export cable corridor, coastal processes may result in exposure of near shore cables, which could increase risk to cables from external threats and within the intertidal zones. Dedicated cable installation and protection methods will be developed for cable protection at the landfall location comprising a mixture of Horizontal Directional Drilling (HDD), burial and mechanical protection to be confirmed.

4.4.1.4 Further information on sediment mobility can be found in **Volume 3, Appendix 6.1: Physical Processes Modelling** and **Volume 3, Appendix 6.2: Water Framework Directive Assessment**.

4.5 Seabed conditions

4.5.1.1 Preliminary geotechnical and geophysical site investigations have been completed across the OAA and export cable corridor. Additional detailed surveys will be conducted across the OAA and export cable corridor to confirm seabed conditions and inform a cable burial strategy.

5. Cable Installation Method

5.1 Array cables

5.1.1.1 Cable installation methodology for array cables is described in detail in **Volume 4: Outline Construction Method Statement** Section 2.5.

5.2 Offshore export cables

5.2.1.1 Cable installation methodology for array cables is described in detail in **Volume 4: Outline Construction Method Statement** Section 2.8.

6. Operation and Maintenance

6.1 Introduction

6.1.1.1 This Section sets out the anticipated O&M activities associated with the array cables and the offshore export cables. The Applicant is required to sell and subsequently transfer ownership of the transmission assets (comprising the offshore export cables, and the offshore substations[1]) to an Offshore Transmission Operator (OFTO). After the transfer of ownership, the OFTO will take on responsibility for the O&M measures associated with the transmission assets.

6.1.1.2 This section sets out indicative O&M procedures, which will be fully described in the Offshore Operational Maintenance Programme.

6.1.1.3 As a minimum the final As-Left document package for future maintenance shall include:

- circuit single line diagram that accurately references each offshore export cable system (including location of all factory and field joints to an accuracy of +/-5m) and termination point for the completed circuit;
- record of factory batch number for each cable reference to appropriate manufacturing record book;
- record of factory batch number for each of the cable components and reference to appropriate manufacturing record book;
- cable burial as-installed final report;
- remedial protection final report;
- cable schedule providing as-installed lengths for each cable and record of cable component (termination, hang-off, patch panel and cable protection system) serial numbers;
- copy of the site acceptance test sheet;
- record of any failures that have occurred and remedial actions that were taken;
- certificate of conformity;
- as-installed alignment charts; and
- as-installed data deliverables.

6.2 Ongoing cable inspection

6.2.1.1 When the Project is operational, and the cable contractor issues a Taking-Over certificate and cable burial as-left report, further cable or seabed surveys will be undertaken on a periodic basis to confirm that cables remain buried.

6.2.1.2 A survey will be undertaken post-installation to confirm the cables remain buried. The frequency and scope of further monitoring will be proportionate to the risk of future cable exposure and determined based on comparisons with the initial post-installation survey results. The following surveys or inspections may be considered as part of ongoing O&M activities:

[1] Some elements of the offshore substations will be retained as part of the Wind Farm assets.

- geophysical surveys along all routes or those routes which are considered at risk of exposure based on initial post-installation survey findings;
- surveys at approaches to structure J-tubes where there may be greater risk of scour or erosion; and
- a Distributed Temperature Sensing system or similar will be installed to remotely and continuously monitor cable health from the O&M base.

6.3 Cable exposure

6.3.1.1 In the event of cable exposure, cable sections will be inspected to determine the full extent of exposure. An assessment will be undertaken to determine the risk posed by the exposed cables to other sea users and to the Project. Where the risk is unacceptable, remedial action will be undertaken to ensure the cable is adequately protected. The following measures will be considered.

- reasonable endeavours will be made to re-bury the cable to a safe DoL taking into account the risk of exposure re-occurring;
- placement of rock bags or rock armour or suitable alternatives such as frond mats, tyre mats etc[2]., at the cable ends to mitigate cable movement / migration; or
- placement of additional rock armouring along the length of exposed cable. This approach is considered a last resort and would be agreed in advance of deployment with MD-LOT.

6.4 Cable failure

6.4.1 Overview

6.4.1.1 The following sections outline procedures to repair or replace damaged or faulty subsea cables.

6.4.1.2 Repairs will be conducted by a Cable Lay Vessel (CLV) or suitable alternative vessel such as a jack-up vessel. Depending on the location of the fault the following cable repair options will be considered. The following lists set out indicative procedures associated with potential cable repair scenarios.

6.4.2 Replacement of a full array cable length

6.4.2.1 The following steps provide an indicative overview of the procedure to replace a full length of a single array cable (i.e. a length between two structures):

- the repair vessel will de-bury the damaged section. It is likely that the cable will be exposed using a jetting tool and/or mass flow excavation;
- the cable will be cut at the damage location subsea using an ROV and the first end of the cable disconnected at the turbine, offshore substation or SDC;
- the first end of the cable and the CPS will be recovered to the repair vessel;

[2] Alternative cable protection solutions not covered by the licensed deposits on the Wind Farm or OfTW Marine Licence will be subject to approval of an additional marine licence or variation

- the second end of the cable will then be disconnected from the turbine or offshore substation;
- the second end cable and CPS will be recovered to the repair vessel;
- a new section of cable will be installed following the procedures detailed in **Volume 4: Outline Construction Method Statement.**
- the cable will then be protected using the most appropriate burial tool or protection options, following the same procedure detailed in **Volume 4: Outline Construction Method Statement**.

6.4.3 Replacement of a section of subsea cable

6.4.3.1 The following steps provide an indicative overview of the procedure to cut out a section of cable in the middle of a length and insert a new piece of cable using two cable joints;

- the repair vessel will de-bury the damaged section. It is likely that the cable will be exposed using a jetting tool and/or mass flow excavation;
- the cable will be cut either side of the damaged location subsea using an ROV;
- the cable repair vessel will then recover the first end of the array cable or export cable to be repaired.
- a cable joint will be used to connect a repair section of cable to the cut end of the recovered cable;
- the second end of the cable to be repaired will then be recovered. This end of the cable will be connected to the other side of the cable repair section using a second cable joint;
- the repaired cable will then be lowered to the seabed. The cable repair section will result in a bight (loop) at the repair location; and
- the cable will then be re-buried using the most appropriate burial tool or protected using rock protection or following the same procedure detailed in **Volume 4: Outline Construction Method Statement**.

6.4.4 Replacement of a section of cable adjacent to a WTG or offshore substation

6.4.4.1 The following steps provide an indicative overview of the procedure to replace a section of cable close to a structure:

- the repair vessel will de-bury the damaged section. It is likely that the cable will be exposed using a jetting tool and/or mass flow excavation;
- once the location of the damage is identified the cable end closest to a structure will be identified for recovery;
- the cable will be cut at the location of the damage either subsea using an ROV or recovered and cut on the deck of the CLV;
- the cable end identified for recovery will then be disconnected from the turbine or offshore substation and recovered to the CLV;
- the CPS will be recovered to the cable repair vessel;
- the CLV will then return to the location of the cut cable and recover the second end of the cable;

- a cable joint will be used to connect a repair section of cable to the cut end of cable still connected to the turbine or offshore substation;
- the cable will then be returned to the seabed and cable lay will commence towards the disconnected turbine or offshore substation. Once at the turbine or offshore substation location second end-pull-in will be completed. It is anticipated that cable lay and second pull-in will be completed using the same procedure detailed in **Volume 4: Outline Construction Method Statement**; and
- the cable will then be re-buried using the most appropriate burial tool following the same procedure detailed in **Volume 4: Outline Construction Method Statement**.

6.4.5 Replacement of a section of offshore export cable at the landfall

6.4.5.1 The following steps provide an indicative overview of the procedure to replace a section of cable close to the landfall Transition Joint Bay (TJB) (export cable only):

- the repair vessel will de-bury the cable around the HDD exit point using a jetting tool, mass flow excavation, or using a backhoe dredge or grab if required;
- the cable will be disconnected at the onshore TJB and the repair vessel will recover the redundant cable from the horizontal duct at the landfall location;
- a new length of cable will then be installed through the horizontal ducts following the same procedures set out in **Volume 4: Outline Construction Method Statement**;
- cable installation will then commence until it reaches the cut end of the export cable, as described in **Volume 4: Outline Construction Method Statement**;
- the cut end of the export cable will then be recovered to the repair vessel and connected to the newly installed cable using a cable joint; and
- the cable will then be re-buried using the most appropriate burial tool following the same procedure detailed in **Volume 4: Outline Construction Method Statement**.

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8. Glossary of Terms and Abbreviations

8.1 Abbreviations

Acronym	Definition
AHTS	Anchor Handling Tug Supply Vessel
AIS	Automatic Information System
CaP	Cable Plan
CLV	Cable Lay Vessel
CPS	Cable Protection System
EIA Report	Environmental Impact Assessment Report
GW	Gigawatts
HDD	Horizontal Directional Drilling
IMO	International Maritime Organisation
ISM	International Safety Management
ISPS	International Ship and Port Facility
km	kilometre
m	metre
MARPOL	International Convention for the Prevention of Pollution from Ships
MBES	Multibeam Echosounder
MD-LOT	Marine Directorate – Licensing Operations Team

Acronym	Definition
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
O&M	Operation and Maintenance
OAA	Option Agreement Area
OfTW	Offshore Transmission Works
OSS	Offshore Substation
PLGR	Pre-lay Grapnel Run
ROV	Remotely Operated Vehicle
s.36	Section 36
SBP	Sub-Bottom Profiler
SOLAS	International Convention for the Safety of Life at Sea
SPR	ScottishPower Renewables UK Limited
SSEN	Scottish and Southern Electricity Networks
SSS	Side Scan Sonar
TJB	Transition Joint Bay
UXO	Unexploded ordinance
WTG	Wind Turbine Generator

8.2 Glossary of terms

Term	Definition
Array cables	Array cables are a crucial component of subsea infrastructure, particularly in offshore wind farms. They are used to connect wind turbines to the offshore substation, transferring power and auxiliary power when turbines are not generating.
Crown Estate Scotland	The public corporation of the Scottish government that is responsible for the management of land and property in Scotland, as owned by the monarch "*in right of the Crown*".
Marine Directorate-Licensing Operations Teams	Formerly known as Marine Scotland- Licensing operations Team, MD-LOT is the regulator for determining marine licence applications on behalf of the Scottish Ministers in the Scotland inshore region (between 0 and 12 nautical miles) under the marine (Scotland) Act 2010, and in the Scottish offshore region (between 12 and 200 nautical miles) under Marine and Coastal Access Act 2009.
Marine licence	Licence required for certain activities in the marine environment and granted under either the Marine and Coastal Access Act 2009 or the Marine (Scotland) Act 2010.
Marine Protected Area	A Marine Protected Area is a legally designated zone in UK waters established to safeguard vulnerable species and habitats through restrictions on activities that could harm ecological integrity. MPAs include sites such as Special Areas of Conservation (SAC), Special Protection Areas (SPA), and Marine Conservation Zones (MCZ), and their presence requires careful assessment and mitigation within Environmental Impact Assessments for offshore wind projects
Multibeam echosounder	A sonar-based system that maps the seafloor by emitting multiple sound beams and recording their echoes.
Offshore	Pertaining to the seaward side of the MLWS, and typically in reference to locations some distance from the coast.
Offshore Wind Farm	An offshore wind farm is a group of wind turbines generators in the same location (offshore) in the sea, which are used to produce electricity.
Planning Permission in Principle	Planning Permission in Principle is a type of planning application that allows a proposal to be assessed without requiring detailed plans of the layout, design, or finish of any buildings. It is typically used for larger developments, such as residential projects, where the specifics can be determined later.
Scottish Ministers	The devolved government of Scotland.
Sub bottom profiler	A geophysical method which is specifically designed to detect and characterise layers of sediment or rock beneath a body of water.

Term	Definition
Side scan sonar	Transmits high frequency sound pulses that map the seabed either side of the unit.

MarramWind