Muir Mhòr Offshore Wind Farm

Environmental Impact Assessment Report

Volume 4, Appendix 2: Outline Environmental Management Plan

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Contents

Outline Environmental Management Plan 1

1. Introduction 1

1.1. Purpose and Scope 1
1.2. Aims and Objectives 1
1.3. Structure 2
1.4. Other Relevant Documents 2
1.5. Description of Proposed Development 3
1.6. Consents 6

2. Management, Implementation and Communication 7

2.1. Roles and Responsibilities 7

Contact Details 12

2.2. Communications and Reporting 12

Internal Communications 12
External Communication 13

2.3. Training, Auditing and Change Management 14

Competence Training 14
Monitoring and Audits 15
Review and Change Management 16

3. Environmental Impacts and Control Measures 16

3.1. General Requirements 16
3.2. Schedule of Embedded Commitments 16
3.3. Environmental Control Measures 17

Marine Pollution and Contingency Planning 17
Marine Species 17
Marine Archaeology 17
Vessel Management and Other Marine Users 17
Marine Invasive Non-Native Species 18
Waste Management 18

4. References 20

5. Annexes 21

Annex A – Outline Marine Pollution Contingency Plan 21
Annex A: Appendix 1 - Pollution Report - CG77 – POLREP 23
Annex B – Outline Invasive Non-Native Species Management Plan 25
Annex C – Contact Sheet 27

Figures

Figure 1-1 Muir Mhòr Offshore Wind Farm – Array Area and Offshore Export Cable Corridor 5

Tables

Table 1-1 Consent conditions relevant to the EMP 6
Table 2-1 Roles and responsibilities for the implementation of the EMP 8
Table 5-1 Marine Pollution Contingency Plan roles and responsibilities 21
Table 5-2 Pollution tier classifications 22
Table 5-3 Invasive Non-Native Species Management Plan roles and responsibilities 25

Glossary

Term	Definition
Array Area	The area in which the generation infrastructure (including Wind Turbine Generators and associated foundations, and inter-array cables), Offshore Electrical Platform(s) and an interconnector cable will be located.
Developer	Muir Mhòr Offshore Wind Farm Limited
Floating Foundations	The foundation structures on which the Wind Turbine Generators are installed.
Foundation anchors	The mooring structures which anchor the floating foundations to the seabed.
Inter-array cables	Cables which link the Wind Turbines Generators to each other and the Offshore Electrical Platform(s).
Interconnector cable	Cable which links the Offshore Electrical Platform(s) to one another, allowing for power to be transferred between the platforms
Landfall	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS) where the offshore export cables are brought onshore.
Offshore Electrical Platform (OEP)	Offshore platform consisting of High Voltage Alternating Current (HVAC) equipment, details depending on the final electrical set up of the Project.
Offshore Export Cable Corridor (ECC)	The area within which the offshore export cables will be installed.
Offshore export cables	The subsea electricity cable circuits running from the Offshore Electrical Platform(s) to the landfall which will transmit the electricity generated by the offshore wind farm to the onshore export cables for transmission onwards to the onshore substation and the national electrical transmission system along with auxiliary cables such as fibre optic cables.
Offshore transmission infrastructure	The proposed transmission infrastructure comprising: Offshore Electrical Platform(s) and associated foundations and substructures; the offshore export cables; and the landfall area up to Mean High Water Springs (MHWS).
Project	Muir Mhòr Offshore Wind Farm – comprises the wind farm and all associated offshore and onshore components.
Proposed Development	The offshore Muir Mhòr Offshore Wind Farm project elements to which this Offshore EIA Report relates.
Wind Turbine Generator (WTG)	The wind turbines that generate electricity consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment.

Acronyms

Term	Definition
AtNP	Aid to Navigation Plan
CLM	Community Liaison Manager
CMS	Construction Method Statement
CP	Construction Programme
DSLP	Design Specification and Layout Plan
ECC	Export Cable Corridor
ECoW	Environmental Clerk of Works
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
FIR	Fishery Industries Representative
FLO	Fisheries Liaison Officer
FMMS	Fisheries Management and Mitigation Strategy
HSE	Health, Safety and Environment
IAC	Inter-Array Cable
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non-Native Species
INNSMP	Invasive Non-Native Species Management Plan
LMP	Lighting and Marking Plan
LSE	Likely Significant Effects
MCAA	Marine and Coastal Access Act
MCC	Marine Coordination Centre
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMMP	Marine Mammal Management Protocol
MPCP	Marine Pollution Contingency Plan
VMNSP	Vessel Management and Navigational Safety Plan
O&M	Operation and Maintenance
OEP	Offshore Electrical Platform
OEMP	Outline Environmental Management Plan
OFLO	Offshore Fisheries Liaison Officer
PEMP	Project Environmental Monitoring Plan
QHSE	Quality, Health, Safety and Environment
RAMS	Risk Assessment and Method Statements
ROV	Remote Operated Vehicle
SEAR	Safety and Environmental Awareness Report
SEM	Stakeholder Engagement Manager
WMP	Waste Management Plan

Term	Definition
WNoO	Weekly Notices of Operation
WSI	Written Scheme of Archaeological Investigation
WTG	Wind Turbine Generator

OUTLINE ENVIRONMENTAL MANAGEMENT PLAN

1. INTRODUCTION

1.1. PURPOSE AND SCOPE

1.1.1. Muir Mhòr Offshore Wind Farm Limited (hereafter referred to as 'the Developer') is proposing to develop the Muir Mhòr Offshore Wind Farm (hereafter 'the Project'). The Project is made up of both offshore and onshore components. The subject of this offshore Environmental Impact Assessment Report (EIAR) is the offshore infrastructure of the Project seaward of Mean High-Water Springs (MHWS) which is hereafter referred to as 'the Proposed Development'.

1.1.2. The Muir Mhòr array area covers an area of approximately 200 km^2 and is located approximately 63 km east of Peterhead on the east coast of Scotland. The offshore infrastructure of the Proposed Development includes Wind Turbine Generators (WTGs) and associated floating foundations, the Offshore Electrical Platform(s) (OEP) and associated foundations, the inter-array cables, interconnector cable, offshore export cables and landfall.

1.1.3. This Outline Environmental Management Plan (OEMP) has been prepared by GoBe Consultants Limited and provides the overarching framework for environmental management of all offshore works associated with the Proposed Development during the construction and operation and maintenance (O&M) phases.

1.1.4. This OEMP has been prepared in accordance with the following industry guidance:

- Institute of Environmental Management and Assessment (IEMA) Guidance on Environmental Management Plans (IEMA, 2008).

1.1.5. This OEMP will form the basis of the final Environmental Management plan (EMP). The EMP will be finalised and adopted post-consent, ahead of construction, following approval by Scottish Ministers in accordance with relevant conditions of the Section 36 Consent and associated Marine Licences. Once finalised, all personnel and Contractors associated with the Proposed Development will be expected to comply with the final Environmental Management Plan (EMP).

1.2. AIMS AND OBJECTIVES

1.2.1. The aim of this document is to provide a tool to ensure that all environmental commitments made in the Offshore EIAR are implemented.

1.2.2. The main objectives of this OEMP are:

- To provide information on the Proposed Development, detailing the appropriate measures for the avoidance, minimisation and control of any environmental impacts associated with the Proposed Development identified as part of the offshore Environmental Impact Assessment (EIA); and
- To provide a framework for monitoring the environment.

1.2.3. The EMP will be finalised and adopted prior to the construction phase of the Proposed Development and will also be reviewed and updated prior to being adopted for the O&M phase and similarly for the decommissioning phase.

1.2.4. During these updates, further environmental requirements and management measures to be applied during these phases will be incorporated.

1.2.5. This OEMP does not apply to the onshore infrastructure for the Project landward of MHWS. A separate EMP will be developed for the onshore elements of the Project.

1.3. STRUCTURE

1.3.1. This OEMP is structured as follows:

- Introduction: This section describes the purpose and scope of the OEMP, gives a description of the Proposed Development and highlights other key documents related to the OEMP;
- Management, Implementation and Communication: This section describes the roles and responsibilities of key positions held during the pre-construction, construction and O&M phases of development, training, reporting and auditing requirements, and external communication expectations;
- Environmental Impacts and Commitments: This section describes the proposed construction and O&M activities, and the commitments made by the Developer;
- Annexes containing relevant management procedure documents;
  - Annex A: Outline Marine Pollution Contingency Plan (MPCP);
  - Annex B: Outline Invasive Non-Native Species Management Plan (INNSMP); and
  - Annex C: Contact Sheet.

1.4. OTHER RELEVANT DOCUMENTS

1.4.1. Once finalised, this OEMP will form part of a suite of consent plans that will be required as a condition of the Section 36 Consent and associated Marine Licences for the Proposed Development. At this stage the list of final consent plans that will be required is not known. However, where specific commitments that would be secured by specific consent plans have been identified within the EIAR Assessments, outline versions of these plans have been provided as appendices to the EIAR. These outline consents plans are:

- Volume 4, Appendix 3: Outline Marine Mammal Management Protocol (MMMP);
- Volume 4, Appendix 4: Outline Fisheries Management and Mitigation Strategy (FMMS);
- Volume 4, Appendix 5: Outline Vessel Management and Navigational Safety Plan (VMNSP);
- Volume 4, Appendix 6: Outline Aid to Navigation Plan (AtNP);
- Volume 4, Appendix 7: Outline Lighting and Marking Plan (LMP); and
- Volume 4, Appendix 8: Outline Written Scheme of Investigation (WSI).

1.4.2. In addition to the consent plans listed above, the Developer will also be required to prepare a Project Environmental Monitoring Programme (PEMP). The PEMP will set out the Developer's commitments to monitoring the Likely Significant Effects (LSE) of the Proposed Development

on key receptors and provide detail on how that monitoring will be delivered across all stages of the project (pre-construction, construction, post-construction and decommissioning). This plan will be developed in consultation with the Marine Directorate - Licensing Operations Team (MD-LOT) and other key stakeholders and therefore has not been included as an outline plan at this stage.

1.4.3. The Developer will also be required to submit a Decommissioning Programme (DP) in accordance with Section 105(2) of the Energy Act 2004 and the associated guidance note *Decommissioning of Offshore Installations and Decommissioning of Offshore Renewable Energy Installations in Scottish waters or in the Scottish part of the Renewable Energy Zone under The Energy Act 2004* (Scottish Government, 2022).

1.4.4. Other consent plans likely to be required include Cable Plan(s) for inter-array, interconnector and offshore export cables, a Piling Strategy (PS), a Construction Method Statement (CMS), a Construction Programme (CP), a Design Specification and Layout Plan (DSLP) and a Design Statement. Many of these plans require further detailed design work to be completed prior to preparation.

1.4.5. The final EMP, sub-plans and all other required consent plans will be developed once further detailed design work has been completed for the Proposed Development and post-consent requirements and consent conditions are agreed. The consent plans will be prepared in consultation with key stakeholders for submission to, and approval by, MD-LOT prior to the commencement of construction.

1.4.6. The outline consent plans included in this EIAR will be reviewed and updated as necessary throughout the development of the Proposed Development, to a schedule agreed with MD-LOT. These documents will always reflect the commitments made in the EIAR and any associated conditions of consent or requirements agreed with the relevant authorities.

1.5. DESCRIPTION OF PROPOSED DEVELOPMENT

1.5.1. The Proposed Development will be located in the North Sea, with the Array Area situated approximately 63 km due east of the Peterhead coastline. As described in Volume 1, Chapter 2 (Legislation and Policy Context) of the EIAR, the Proposed Development is already the subject of Agreements for Lease from Crown Estate Scotland. The assumed operational lifetime of the Proposed Development is approximately 35 years.

1.5.2. Figure 1-1 shows the location of the Proposed Development including the Array Area, offshore Export Cable Corridor (ECC) and Landfall.

1.5.3. The Array Area, which covers 200 km^2, will contain the following key infrastructure:

- Up to 67 WTGs;
- Up to 67 WTG floating foundations, including their anchors & mooring lines;
- Up to 250km of Inter-Array Cables (IAC), which connect the individual WTGs to each other and then to the OEP(s);
- Up to two OEP(s), where the IAC transition to the export cables; and
- An Interconnector cable which links the OEP(s) to one another, allowing for power to be transferred between the platform(s).

1.5.4. The offshore ECC covers 167 km^2 and is the offshore area containing the export cables which connect the Array Area to the grid connection point on the Scottish mainland. The offshore ECC will contain up to three export cables, each 90 km in length with the offshore export

cables crossing the intertidal area (the area between MHWS and Mean Low Water Springs (MLWS) where the export cable transitions towards Landfall and the onshore infrastructure) via Horizontal Directional Drilling (HDD).

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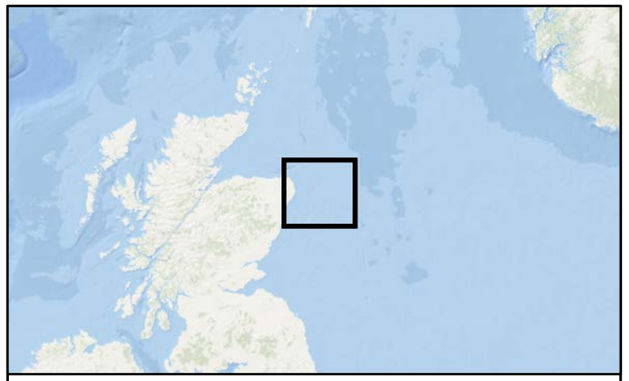

Legend:

- Array Area
- Offshore Export Cable Corridor

Project:	Report:
Muir Mhòr	Outline Environmental Management Plan

Muir Mhor Offshore Wind Farm -
Array Area and Export Cable Corridor

Figure: 1-1	Drawing No: GoBe-0001		
Revision:	Date:	Drawn:	Checked:
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Map scale 1:400,000 @ A3

0 5 10 km

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Co-ordinate system: ETRS 1989 UTM Zone 30N **EPSG:** 25830

MUIR MHÒR
OFFSHORE WIND FARM
A joint venture between Fred. Olsen Seawind & Vattenfall

Service Layer Credits: Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

1.6. CONSENTS

1.6.1. The Developer intends to apply for the relevant consents and permissions required to enable construction, O&M and decommissioning of the Proposed Development. The consents, licences and permissions which will be sought by the Developer for the Proposed Development include:

- A Section 36 consent under the Electricity Act 1989;
- A Marine Licence under the Marine and Coastal Access Act (MCAA) 2009 for the generating assets of the Proposed Development which are located beyond 12nm limit within the Exclusive Economic Zone (EEZ); and
- A Marine Licence under the Marine (Scotland) Act 2010 for the offshore transmission infrastructure, which is within 12nm of the coast, and under the MCAA for the offshore transmission infrastructure located beyond the 12nm limit within the EEZ.

1.6.2. Further applications for European Protected Species (EPS) licences and other marine licences will be submitted in due course to cover pre-construction (e.g. site surveys) and construction activities (e.g. piling), if deemed necessary.

1.6.3. The Developer is submitting this OEMP as part of the EIAR submission for the above consents and to seek approval for the commitments within this OEMP prior to the commencement of construction activities.

1.6.4. This OEMP is a live document and will be further developed in accordance with the requirements of the relevant consent conditions and in consultation with relevant stakeholders.

1.6.5. Once consents are received, Table 1-1 will be completed listing all consents obtained for the Proposed Development.

Table 1-1 Consent conditions relevant to the EMP

Consent Reference	Condition	Relevant Section
[To be added post-consent]		

2. MANAGEMENT, IMPLEMENTATION AND COMMUNICATION

2.1. ROLES AND RESPONSIBILITIES

2.1.1. This section outlines the roles and responsibilities of all Developer personnel, Contractors and Subcontractors in relation to this OEMP.

2.1.2. The Developers personnel, Contractors and Subcontractors must comply with the requirements of the final EMP and all relevant associated documents.

2.1.3. Table 2-1 describes the indicative key roles and responsibilities relevant to the EMP, to be finalised post-consent with consultation from MD-LOT. The roles are indicative; therefore, some might change in the future, final details will be agreed closer to plan submission.

Table 2-1 Roles and responsibilities for the implementation of the EMP

Role Title	Contact Details	Responsibility
Developer Windfarm Roles		
Muir Mhòr Offshore Wind Farm Ltd	Muir Mhòr Offshore Wind Farm Ltd 120 Bath Street, Glasgow, G2 2ENA	Post-consent, manages the process towards construction, including liaison with key environmental agencies and stakeholders. Undertakes a client engineering function, including inspections to ensure that detailed designs, plant, materials and works including scheduling meet the requirements of its construction programme, its functional specifications, its outline designs, and its generic standards. Continued liaison with key stakeholders including, but not limited to, fishers, landowners and residents as required.
Project Director	[To be added post-consent]	Responsible for ensuring compliance with and delivery of the EMP through securing sufficient resources and implementing appropriate processes throughout the Proposed Development. These will be expanded on in the final EMP.
Environmental Manager/ Offshore Consents Manager	[To be added post-consent]	Responsible for managing ongoing compliance with the final EMP and all supporting documents, with support from the Package Managers. These will be expanded on in the final EMP post-consent.
Independent Environmental Clerk of Works (ECoW)	[To be added post-consent]	Responsible for the quality assurance of final draft versions of all consent plans and programmes required under the Section 36 Consent and Marine Licences, providing on-going advice, monitoring and reporting of compliance with the consent conditions and all environmental mitigation and monitoring measures included in the application for the Proposed Development. The ECoW will also be involved with providing environmental training and will establish communication and reporting protocols for issues relating to the environment. These will be expanded on in the final EMP post-consent.
Quality, Health, Safety and Environment (QHSE) Manager	[To be added post-consent]	Responsible for the coordination, management and monitoring of QHSE matters that will compliment this EMP. The QHSE Manager is responsible for providing QHSE support, advice and guidance, will monitor QHSE performance and will be responsible for reducing the environmental effects of the Proposed Development as far as practicable during construction and O&M works. These will be expanded on in the final EMP post-consent.
Health, Safety and Environment (HSE) Lead	[To be added post-consent]	The HSE lead is responsible for the day-to-day contact with Contractors and carrying out any inspections, audits and investigations. These will be expanded on

Role Title	Contact Details	Responsibility
		in the final EMP post-consent.
Head of Construction	[To be added post-consent]	Responsible for overseeing the construction activities of the Proposed Development ensuring the necessary resources are available to the Package Managers to implement the environmental management measures detailed within this EMP. These will be expanded on in the final EMP post-consent.
Package Managers	[To be added post-consent]	Package Managers will support the Environmental Manager/Offshore Consents Manager with similar responsibilities but focussed on their specific package/work streams. These include engineering work packages covering marine installation, WTGs and transmission systems during construction. These will be expanded on in the final EMP post-consent.
Marine Coordinator	[To be added post-consent]	The Developer will establish a Marine Coordination Centre (MCC), at which the Marine Coordinator will be responsible for managing and monitoring vessel activity. This will include the compilation of relevant documents for communication to the fishing industry, such as Notices to Mariners (NtMs), Information to Sea Users Bulletins (Kingfisher Bulletin) and weekly notices of operations (WNoO) that will be issued to the Fisheries Liaison Officer (FLO) for distribution to the fishing industry via the Fishing Industry Representatives (FIRs). These will be expanded on in the final EMP post-consent.
Stakeholder Engagement Manager (SEM)	[To be added post-consent]	The SEM will be in position throughout the Proposed Development lifetime to facilitate engagement with the community. The SEM will cooperate with the Community Liaison Manager (CLM) appointed by the Contractor. These will be expanded on in the final EMP post-consent.
Contractor, Subcontractor and supporting roles		
All Contractors and Subcontractors	N/A	All Contractors and Subcontractors will be required to comply with the required good environmental practice stated in the EIAR, EMP, and associated consent management plans, and ensure their works are fulfilling the stated requirements. The Contractor, subject to the approval of the Developer, will update the EMP as necessary during the construction and O&M phases of the Proposed Development. Each Contractor will have an Environmental Manager who will ensure compliance with all environmental responsibilities in the EMP and supporting documents during the construction and O&M stages of the Proposed Development and report to the Developer and ECoW.
Community Liaison Manager (CLM)	[To be added post-	The CLM will act as a point of contact for residents neighbouring the Project and

Role Title	Contact Details	Responsibility
	consent]	local authorities. These will be expanded on in the final EMP post-consent.
Retained Archaeologist / Archaeological Contractor	[To be added post-consent]	The Retained Archaeologist will be in place throughout the construction stage, and, if required, during the O&M stage, and will support the Environmental Manager in relation to archaeological matters. The roles and responsibilities associated with the Archaeological Contractor are outlined in Volume 4, Appendix 8 (Written Scheme of Archaeological Investigation)
Marine Mammal Observer (if required)	[To be added post-consent]	Marine Mammal Observer may be in place during noisy activities, such as piling and other construction activities if required. These activities and the roles and responsibilities associated with the Marine Mammal Observer are outlined in Volume 4, Appendix 3 (Marine Mammal Mitigation Protocol). These will be expanded on in the final EMP post-consent.
Fisheries Liaison Officer (FLO)	[To be added post-consent]	A FLO has been appointed for the Proposed Development and will continue to be appointed for the construction and O&M stage. The FLO will develop a positive working relationship with the local fishing industry and will have a solid understanding of the potential interactions between the Proposed Development and the local fishing industry. The FLO will be the interface between the Developer, Contractors and Subcontractors and the fishing industry, and may also represent the Developer at fisheries meetings. The FLO will act as a primary point of contact for the fishing industry where communication with the Developer is required and will also disseminate information to the fishing industry (potentially via the Fishing Industry Representatives (FIRs)). The FLO will maintain a database of fisheries contacts and organisations to ensure Project related information is circulated in a timely manner. The FLO will also assist the Developer in resolving fisheries issues as they arise and facilitate the relocation of static fishing gear, as required. These will be expanded on in the final EMP post-consent.
Offshore Fisheries Liaison Officer (OFLO)	[To be added post-consent]	The main role of the OFLO is to minimise any at-sea conflict between the Proposed Development and fishing activities during the construction and O&M stage. The OFLO will be stationed on construction vessels, as required, and will act as an on-site point of communication for fishing vessels. The OFLO will maintain contact with the FLO (based onshore) and the Developer to communicate relevant information to fishing vessels. The OFLO will also record details of any fishing activity at the Proposed Development when on-site as required to the Developer

Role Title	Contact Details	Responsibility
		and the FLO. These will be expanded on in the final EMP post-consent.
Fishing Industry Representatives (FIRs)	[To be added post-consent]	The FIRs will be the direct point of contact for the local fishing industry and will be a key support to the FLO. The FIRs will circulate information from the Developer and the FLO, as required. The FIRs may attend fisheries stakeholder meetings and will liaise directly with local fishers around their concerns on the Proposed Development to report back to the FLO. These will be expanded on in the final EMP post-consent.

CONTACT DETAILS

2.1.4. A Contacts Sheet (Annex C of this OEMP) for the Proposed Development will be compiled prior to the commencement of construction. This list will include contact details of all Developer, Contractor/Subcontractor and relevant third parties. This list will be made available to all required personnel involved in the construction, O&M and decommissioning of the Proposed Development and will be regularly updated throughout all phases of the Proposed Development.

2.1.5. The complete list of contacts is provided in the Contacts Sheet.

2.1.6. As a minimum, the Contacts Sheet will include the following information:

- Company/organisation;
- Position;
- Name;
- Telephone/mobile number;
- Email address; and
- Office location.

2.2. COMMUNICATIONS AND REPORTING

INTERNAL COMMUNICATIONS

2.2.1. Regular progress meetings will be held before and during construction and O&M activities, between the Developer Environmental Manager/Offshore Consents Manager (and the Developer ECoW as required) and relevant Contractors/Subcontractors. During these progress meetings, the Developer Environmental Manager/Offshore Consents Manager and/or Contractor's Environmental Manager will present a section on environmental management and consents compliance.

2.2.2. Contractor/Subcontractor Risk Assessments and Method Statements (RAMS) will be reviewed, and copies of the relevant consents will be provided to the Contractors and/or Subcontractors, and they will be made aware of the consent obligations associated with a particular activity.

2.2.3. All Developer personnel, Contractors and Subcontractors should report any environmental concerns or issues immediately. A Safety and Environmental Awareness Report (SEAR) will be completed for all potential (near miss) or actual environmental incidents or emergencies which occur on-site.

2.2.4. Prior to construction, this document will be updated to include flow diagrams that outline the communication pathways, to ensure general internal compliance and also during specified occurrences/incidents, such as an environmental issue. Timescales for communication and reporting of any issues will be confirmed with contractors prior to construction and O&M activities as required.

EXTERNAL COMMUNICATION

2.2.5. The Developer, supported by the Contractor and Subcontractors, will facilitate regular consultation in accordance with the specifications and cooperate with the final EMP. The Developer will carry out external communications, notifications and reporting in relation to Proposed Development activities in line with the commitments made in the EIAR and in compliance with the requirements of the consent conditions.

2.2.6. Details of the available communication channels/points of contact for members of the public to contact the FLO, the ECoW and the contractor(s) during construction will be established in advance of the commencement of construction and displayed around working areas.

INCIDENT REPORTING

2.2.7. The procedures to report spill or pollution events are provided in the MPCP (Annex A of this OEMP).

2.2.8. The procedures to carry out following an environmental incident (excluding marine pollution incidents) will be provided in the Environmental Incident Reporting Procedure which will be produced, approved and annexed to the final EMP prior to the start of the construction activities.

DROPPED OBJECTS

2.2.9. All objects dropped by the Developer, Contractors or Subcontractors will need to be recorded and reported to MD-LOT. Revised guidance and an updated reporting form for reporting an accidental deposit of an object at sea were published by MD-LOT on 1st November 2024[1].

2.2.10. A dropped object is considered to be an object or debris accidentally deposited in the Scottish marine area or the Scottish offshore region. Objects deposited in the sea or on the seabed, or materials placed at sea, in accordance with marine licences or subject to exemptions are not considered to be dropped objects.

2.2.11. Where it appears to the Marine Directorate that an object presents a risk, remedial action may be required.

ENVIRONMENTAL COMPLAINTS

2.2.12. The Developer with the support of the Contractor and Subcontractors will establish a process for handling all enquiries, including complaints. All enquiries will be recorded, and a log will be maintained to include details of the response and action taken. This will be available upon request for inspection to statutory stakeholders. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

2.2.13. The ECoW/FLO will be immediately informed of any environmental-related issues that have been raised. Where appropriate, the ECoW/FLO in consultation with the Developer, will be responsible for informing relevant stakeholders and statutory bodies.

[1] https://www.gov.scot/publications/offshore-renewables-accidental-deposit-of-an-object-at-sea-form-and-guidance/

2.3. TRAINING, AUDITING AND CHANGE MANAGEMENT

COMPETENCE TRAINING

2.3.1. The Developer, in collaboration with the ECoW, will ensure that Contractors and Subcontractors have appropriate environmental management resources and procedures in place. The Developer's Environmental Manager/Offshore Consents Manager will evaluate Contractor compliance with environment and consents requirements and will review appointed Contractor documentation to ensure compliance with the EMP. Contractor RAMS will be submitted 10 days prior to the start of works for approval by the Environmental Manager, and no works can commence until the RAMS are approved.

2.3.2. During the construction and O&M phases of the Proposed Development, the Environmental Manager/Offshore Consents Manager is responsible for delivering environmental training and promoting awareness in relation to environmental management through various means including;

- Inductions;
- Toolbox talks;
- Awareness materials (e.g. Environmental notices, Marine Notices, Notice to Mariners); and
- Onsite audit results and assessment.

2.3.3. The Developer's Environmental Manager/Offshore Consents Manager and, where required, the ECoW will review all training documentation, before it is delivered.

2.3.4. The Developer's Environmental Manager/Offshore Consents Manager will ensure that a dedicated section is included within wider Contractor project inductions for the Proposed Development to cover environment and consents issues, highlighting the key environmental sensitivities and considerations. All Developer personnel, Contractors and Subcontractors will receive a project induction.

2.3.5. The Developer's Environmental Manager/Offshore Consents Manager will also deliver specific training on the purpose, requirements and procedures of the final EMP and associated appendices, through a series of toolbox talks. Toolbox talks will be designed to convey key points to project personnel in a clear and concise manner (IEMA, 2008). Toolbox talks will also be scheduled and delivered by specific personnel, such as the ECoW, in advance of specific construction or O&M activities, identifying specific control measures and mitigation requirements.

2.3.6. In addition to presentations and talks, the Developer's Environmental Manager/Offshore Consents Manager will prepare a series of awareness materials, which may include training packs, posters, signs and newsletters. The delivery of material shall be coordinated with the Contractors to ensure best use of any training opportunity.

2.3.7. Training will take place regularly throughout the lifetime of the Proposed Development in order that project personnel (including any new personnel) are kept up to date with any changes to requirements or procedures. A record of the training will be maintained by the Developer's Environmental Manager/Offshore Consents Manager.

2.3.8. The Developer's Environmental Manager/Offshore Consents Manager will assume responsibility for the provision of environmental training and promoting awareness to project personnel during the O&M phase of the Proposed Development. The Developer's

Environmental Manager/Offshore Consents Manager may delegate these responsibilities to a Contractor, if appropriate, during the O&M phase of the Proposed Development.

MONITORING AND AUDITS

2.3.9. To ensure compliance with this OEMP and associated consent documentation, the Developer and its Contractors will develop an internal monitoring programme for the Proposed Development, which will comprise both inspections and audits.

2.3.10. Observations from inspections and audits shall be collected, recorded in inspection or audit template reports, and issued to Contractors for closure of actions. The close out of these items will be required within designated timeframes.

2.3.11. Each Contractor and Subcontractor working on the Proposed Development must maintain adequate records of environmental information and audits to demonstrate compliance with both legal and the Developer's environmental requirements.

2.3.12. The Developer will assess compliance with relevant environmental legislation and consent commitments as part of the Proposed Development's monitoring programme.

2.3.13. Audits will focus on compliance with the final EMP and will be completed by the Developer on key construction packages. Audits will be agreed and arranged with the Contractors at least four weeks in advance and prior to any vessel mobilising in relation to the Proposed Development. All actions raised from the audit will be recorded by the Developer and the Contractors must address and close out actions in a timely manner.

2.3.14. A monthly report will be required from each Contractor and Subcontractor which will be recorded and monitored by the Developer and ECoW. Required Data will be as follows:

- Environmental Near Miss Incidents;
- Environmental Incidents;
- Notice from Regulatory Authority; and
- Confirmed Environmental Complaint.

2.3.15. The Developer's Environmental Manager/Offshore Consents Manager (where appropriate) will develop specific checklists, informed by review of the final OEMP and Contractor RAMS, to facilitate the audit process.

2.3.16. The following environmental audits will be completed:

- The Developer may carry out audits at any time, but at least once per quarter;
- During construction, the Developer's Environmental Manager/Offshore Consents Manager will undertake environmental audits monthly and will maintain a record of all completed audit forms, and records of corrective action and close outs; and
- The Developer's Environmental Manager/Offshore Consents Manager will also undertake audits of Subcontractors, on a quarterly basis and provide an audit report to the Developer's Environmental Manager/Offshore Consents Manager within two weeks of the audit being undertaken.

2.3.17. Details and findings of all monitoring and audit activities will be recorded. Any observations or corrective actions arising from audits and inspections will be addressed, with procedures updated in this OEMP as required.

2.3.18. The Developer's Environmental Manager/Offshore Consents Manager will be delegated sufficient powers under the construction contract so that they will be able to instruct the Contractor to stop works and to direct the carrying out of emergency mitigation/clean-up operations.

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

REVIEW AND CHANGE MANAGEMENT

2.3.20. The final EMP will be reviewed at regular intervals throughout the construction and O&M phases of the Proposed Development. The Developer will contractually require Contractors' and Subcontractors' Environmental Managers to comply with the EMP. All updates to the EMP made by the Contractor require the review and approval of the Developer.

2.3.21. The EMP will be reviewed at regular intervals or when any important new information, methods, procedures or good environmental practice become available. The schedule for reviews will be agreed with MD-LOT post-consent. The EMP will also be revised following any findings or lessons learned during the construction and/or the O&M phases.

2.3.22. In the event of a new environmental sensitivity being identified during works, change management procedure will be followed by the Contractor's Environmental Manager (as recommended in IEMA, 2008).

2.3.23. An assessment of LSE will be initiated by the Contractor's Environmental Manager following the notification of a change and if necessary, the EMP will be updated and submitted to MD-LOT for approval. Every change to the EMP will be recorded as part of the EMP review audit trail, and this will include details of the review undertaken.

3. ENVIRONMENTAL IMPACTS AND CONTROL MEASURES

3.1. GENERAL REQUIREMENTS

3.1.1. This section outlines the general environmental requirements, measures and controls to be in place during the construction and O&M phases of the Proposed Development to avoid, reduce or mitigate for adverse effects.

3.1.2. Commitments stated in the Offshore EIAR are translated into an appropriate format allowing their practical implementation by Contractors and Subcontractors. This follows IEMA Practitioner Guide, which states that "an EMP acts as a 'bridge' between pre and post consent process and is a key tool in risk and change management for the project" (IEMA, 2008).

3.2. SCHEDULE OF EMBEDDED COMMITMENTS

3.2.1. As part of the project design process, several designed-in measures have been proposed to reduce the LSE on environmental receptors. As there is a commitment to implementing these measures, they are considered inherently part of the design of the Proposed Development.

3.2.2. The complete list of enhancement, mitigation and monitoring commitments is provided in Volume 3, Appendix 6.1 (Commitments Register).

3.2.3. As the Commitments Register is developed from the commitments made within the Offshore EIAR and in compliance with consent conditions, adherence to the EMP and accompanying annexes, will ensure compliance with the consents awarded for the Proposed Development in relation to environmental considerations.

3.3. ENVIRONMENTAL CONTROL MEASURES

MARINE POLLUTION AND CONTINGENCY PLANNING

3.3.1. The measures to be adopted to minimise the impacts from the release of pollutants from construction and O&M phases of the Proposed Development are set out in the MPCP (Annex A).

MARINE SPECIES

3.3.2. In the event of a wildlife incident occurring as a result of activity associated with the Proposed Development (e.g. injury to a marine mammal, or an observed fish or bird mortality), the incident will be reported to the Developer's Environmental Manager/Offshore Consents Manager or Developer's ECoW as soon as possible.

3.3.3. Details of the activity being undertaken; pictures and weather conditions are the minimum information to be provided. The Developer's Environment Manager or ECoW will follow up with the relevant regulatory authority, where appropriate.

3.3.4. The approach to management and mitigation of LSE on marine mammals is provided in Volume 4, Appendix 3 (Marine Mammal Mitigation Protocol).

MARINE ARCHAEOLOGY

3.3.5. The procedures to be followed on discovering any marine archaeology during the construction and O&M phases of the Proposed Development are set out in the Volume 4, Appendix 8 (Written Scheme of Investigation).

VESSEL MANAGEMENT AND OTHER MARINE USERS

3.3.6. The approach to management and mitigation of LSE on other marine users is provided in the following plans found in Volume 4 of the EIAR:

- Volume 4, Appendix 4 (Outline FMMS);
- Volume 4, Appendix 5 (Outline VMNSP);
- Volume 4, Appendix 6 (Outline AtNP); and
- Volume 4, Appendix 7 (Outline LMP).

3.3.7. All Contractors and Subcontractors will be required to comply in full with the approved VMNSP and to communicate with and follow the instructions from the appointed Marine Coordinator or other responsible person.

3.3.8. The VMNSP is intended to ensure that the vessel operations are managed in such a way that disturbance effects on marine mammal and bird species are managed and where required, mitigated.

3.3.9. The VMNSP must be referred to in planning and conducting all marine vessel operations to ensure that the approved mitigation and management procedures are applied.

3.3.10. The VMNSP sets out requirements related to:

- Defining the number, types and specification of vessels to be used during the construction and O&M phases of the Proposed Development;
- Defining how vessel management will be coordinated, particularly during construction but also during O&M; and
- Defining the location of working port(s), and how often vessels will be required to transit between port(s) and the site and indicative vessel transit corridors that will be used.

3.3.11. The VMNSP is intended to ensure that the vessel operations are managed in such a way as to mitigate the navigational risk to other legitimate users of the sea.

3.3.12. The VMNSP must be referred to in planning and conducting all marine vessel operations to ensure that the approved mitigation and management procedures are applied.

3.3.13. The VMNSP sets out requirements related to:

- Navigational safety measures;
- Construction exclusion (safety) zones;
- Notice(s) to Mariners and Radio Navigation Warnings;
- Anchoring areas;
- Temporary construction lighting and marking;
- Emergency response and coordination arrangements for the construction, O&M and decommissioning phases of the Proposed Development; and
- Buoyage.

MARINE INVASIVE NON-NATIVE SPECIES

3.3.14. The measures to be adopted for the management of marine Invasive Non-Native Species (INNS) during construction and O&M phases of the Proposed Development are set out in the INNSMP (Annex B).

WASTE MANAGEMENT

3.3.15. A Waste Management Plan (WMP) is required by all Contractors and Subcontractors setting out details of all waste management procedures for their activities and details of expected waste arisings and following procedures for waste management. The following aspects are expected to be a minimum requirement for the WMP:

- Analysis of the waste arisings/material surpluses;
- Specific waste management objectives for the Proposed Development;
- Methods proposed for prevention, reuse and recycling of wastes;
- Material handling procedures; and
- Proposals for education of workforce and plan dissemination programme.

3.3.16. Some of the key responsibilities of the Contractors and Subcontractors addressed in the WMP are expected to include:

- Complying with all relevant legislative and EIAR requirements and seek mandatory permits and licences regarding waste management;
- Providing a waste reduction toolbox talk to all personnel to increase awareness of recycling and waste reduction, and make sure the requirements of the WMP are understood;
- Handling waste materials and refuses to limit the damage and disturbance as much as possible;
- Sorting all waste in their specific suitably labelled secure container;
- Checking the contents of the site waste and recycling containers on a weekly basis;
- Reducing waste through reduction, recycling or waste elimination measures when feasible;
- Storing and returning all relevant waste to shore and disposing of it according to the legal waste management framework; and
- Agreeing with the principles of the Basel Convention of 1989 to avoid hazardous waste being unfairly exported to developing countries.

3.3.17. The WMP must be provided to the Developer for approval prior to commencement of the activities.

3.3.18. The WMP will be updated for the O&M phase of the Proposed Development.

4. REFERENCES

Institute of Environmental Management and Assessment (IEMA) (2008). *Environmental Management Plans, Best Practice Series*, Volume 12, December 2008.

5. ANNEXES

ANNEX A – OUTLINE MARINE POLLUTION CONTINGENCY PLAN

5.1.1. The MPCP will be drafted post-consent and will include the procedures to safeguard the marine environment from any potential accidental pollution events associated with Tier 1 (please see Table 5-2) oil or fuel spills during the construction, O&M stages of the Proposed Development.

5.1.2. The MPCP will include sections similar to the following.

INTRODUCTION

5.1.3. This section will provide background to the Proposed Development, the consent requirements, an overview of the scope and structure of the MPCP, including objectives of the MPCP, and the key contacts for emergency situations (additional contacts will be listed within the appendices). It will also identify other consent plans and documentation that are relevant to pollution prevention and contingency planning and the linkages between those plans and documents and the MPCP.

ROLES AND RESPONSIBILITIES

5.1.4. This section will describe the roles and responsibilities relating to the implementation of the MPCP. The roles likely to be included are listed in Table 5-1 below.

Table 5-1 Marine Pollution Contingency Plan roles and responsibilities

Role	Contact Details	Responsibility
The Developer	[To be added post-consent]	Ensuring Contractors and Subcontractors take appropriate responsibility for pollution events
Developer Environmental Manager/Offshore Consents Manager	[To be added post-consent]	Responsible for the overall preparation and implementation of the MPCP
The Environmental Clerk of Work	[To be added post-consent]	Providing quality assurance for the MPCP, ensuring it is implemented in line with consent conditions and is responsible for reporting on compliance and incidents
Marine Coordinator	[To be added post-consent]	Main point of contact should a pollution event occur. Will also oversee any pollution responses
Contractor and Subcontractors	[To be added post-consent]	They will be expected to comply with the Developer's MPCP as well as produce their own. They will also be expected to ensure their staff have adequate pollution prevention and response training.
Spill Response Contractor	[To be added post-consent]	Required to be in place prior to construction and provide oil spill response as required.

TRAINING AND EXERCISES

5.1.5. This section will detail the types of pollution prevention training that will be provided and the intervals at which they will be given.

POLLUTION SOURCES AND RISK ASSESSMENT

5.1.6. This section will provide information on the potential sources of pollution, the associated level of risk, and the level of response likely to be required, based on the tier classification detailed in Table 5-2 below. It will also detail any control measures and monitoring requirements that have been established to mitigate against possible pollution events, in line with measures identified within the EIAR.

Table 5-2 Pollution tier classifications

Tier	Classification
Tier 1	Response within the capability of onsite resources
Tier 2	Response requires regional resources
Tier 3	Response requires national/international resources

POLLUTION INCIDENT RESPONSE STRATEGIES

5.1.7. This section will detail the specific procedures to be adhered to, both at sea and along shorelines, in the event of a marine pollution incident. It will include:

- Pollution incident response procedures to be adhered to in response to a marine pollution incident from a vessel or offshore infrastructure installation;
- Reporting requirements and procedures;
- Response checklist detailing the key actions to be implemented in the event or a pollution incident; and
- Spill response strategies to be implemented, and the associated procedures for dealing with any affected wildlife, based on the tier classification detailed in Table 5-2:
  - Tier 1 response for the minimal release of oil to the marine environment, which the Developer can respond to within its own capacity; and
  - Tier 2/3 response where additional support is required from Contractors or national pollution response services.

APPENDICES

5.1.8. A Spill Risk Proforma (CG77 POLREP – Pollution Reporting Form, see Annex A, Appendix 1), and Non-compliance Reporting Proforma will be included in the appendices of the MPCP, as well as a contacts directory for non-emergency contacts.

ANNEX A: APPENDIX 1 - POLLUTION REPORT - CG77 – POLREP

INITIAL INCIDENT REPORT

A. CLASSIFICATION: -

B. DATE/TIME/OBSERVER: -

C. POSITION AND EXTENT OF POLLUTION: -

D. TIDE: - WIND: -

E. WEATHER: -

F. CHARACTERISTICS OF POLLUTION: -

G. SOURCE AND CAUSE OF POLLUTION: -

H. DETAILS OF VESSELS IN AREA: -

I. NOT USED

J. ANY PHOTOGRAPHS OR SAMPLES: -

K. REMEDIAL ACTION: -

L. FORECAST OF OIL MOVEMENT: -

M. NAMES OF OTHERS INFORMED: -

N. OTHER RELEVANT INFORMATION: -

ANNEX B – OUTLINE INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN

5.1.9. The Invasive Non-Native Species Management Plan (INNSMP) will be drafted post-consent and will follow the guidance of NatureScot's 'Marine Biosecurity Planning Guidance for Producing Site and Operation‐Based Plans for Preventing the Introduction of Non‐Native Species', which highlights the required control measures to prevent the introduction or spread of INNS as a consequence of the Proposed Development.

5.1.10. The Developer shall ensure appropriate biosecurity management practices are implemented during construction and O&M stages of the Proposed Development to reduce the risk of transferring INNS to and from the site to a minimum.

5.1.11. The INNSMP will include sections similar to the following.

INTRODUCTION

5.1.12. This section will provide a background to the Proposed Development and the INNSMP, details of all relevant UK Guidance and legal requirements around the management of INNS, as well as any linkages with other consent plans. It will also provide an overview of the scope and structure of the INNSMP.

ROLES AND RESPONSIBILITIES

5.1.13. This section will describe the roles and responsibilities relating to the implementation of the INNSMP. The roles likely to be included are listed below in Table 5-3.

Table 5-3 Invasive Non-Native Species Management Plan roles and responsibilities

Role	Contact Details	Responsibility
The Developer's Environmental Manager/Offshore Consents Manager	[To be added post-consent]	Ensuring the implementation of the INNSMP and monitoring and clearance/disposal of INNS at the Proposed Development.
The Environmental Clerk of Works	[To be added post-consent]	Providing quality assurance for the INNSMP, ensuring it is implemented in line with consent conditions and reporting any incidents with INNS
Contractor and Subcontractors	[To be added post-consent]	They will be expected to comply with the INNSMP and provide early notification if INNS are present.

POTENTIAL PATHWAYS FOR INNS INTRODUCTION AND/OR SPREAD

5.1.14. This section will provide an assessment of site-specific biosecurity risks, including potential pathways of INNS introduction and/or spread.

BIOSECURITY CONTROL MEASURES

5.1.15. This section will detail the biosecurity control measures to be implemented to protect against negative INNS impacts, including a contingency plan in case of introduction or spread of INNS. An example of these measures is provided in paragraph 5.1.16.

5.1.16. Following legislative requirements and guidance, specific measures that will be adopted by Contractors and Subcontractors are as follows:

- All relevant vessels (400 gross tonnes (GT) or more, and those certified to carry 15 or more persons) to carry an International Anti-fouling System Certificate (AFS), in accordance with the Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008, for the purpose of giving effect to the International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001;
- All vessels of 24 metres or more (but less than 400 GT) must carry a declaration on AFS, signed by the owner or authorised agent, and accompanied by appropriate documentation;
- All ship hull inspections and biofouling management measures shall be documented by the Contractors (and their Subcontractors), and recorded;
- All submersible equipment, for instance, Remote Operated Vehicles (ROVs), shall be subject to documented pre-mobilisation and post-use checks, for the presence of marine growth, to ensure that equipment is free of marine growth prior to and post-use;
- All ships of 400 GT and above will be required to have onboard an approved Ballast Water Management Plan (BWMP) and Ballast Water Record Book. They must also be surveyed and issued with an International Ballast Water Management Certificate. Vessels of less than 400 GT shall meet the requirements of the BWM Convention; and
- Meet any agreed timescales for BWM Convention compliant Ballast Water Treatment Systems (BWTS) to be installed on relevant vessels (in line with vessel types and their International Oil Pollution Prevention re-certification dates).

SURVEILLANCE MONITORING AND REPORTING

5.1.17. This section will detail the types of surveying, reporting and record keeping required for INNS and list the persons responsible for carrying these out. A plan review schedule will also be detailed to help ensure the INNSMP stays up to date and relevant, and to help identify the need for any further studies or actions

ANNEX C – CONTACT SHEET

Name	Role	Company	Phone Number	Email Address	Office Location
[To be added post-consent]	[To be added post-consent]	[To be added post-consent]	[To be added post-consent]	[To be added post-consent]	[To be added post-consent]