MachairWind Offshore Windfarm

Appendix 6 Outline Environmental Management Plan

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Glossary of Acronyms

Term	Definition
ECC	Export Cable Corridor
ECoW	Environmental Clerk of Works
EIA	Environmental Impact Assessment Report
EMP	Environmental Management Plan
EMS	Environmental Management Systems
FLO	Fisheries Liaison Officer
FMMCP	Fisheries Mitigation, Monitoring and Communication Plan
GW	Gigawatts
HSE	Health, Safety & Environment
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non-Native Species
INNSMP	Invasive Non-Native Species Management Plan
ISEP	Institute of Sustainability and Environmental Professionals
km	Kilometres
MD-LOT	Marine Directorate Licensing and Operations Team
MARPOL	International Convention for the Prevention of Pollution from Ships
MMMP	Marine Mammal Mitigation Protocol
MPA	Marine Protected Area
MPCP	Marine Pollution Contingency Plan
NS	NatureScot
O&M	Operations and maintenance
OnTDA	Onshore Transmission Development Area
OSP	Offshore Substation Platform
PMF	Priority Marine Feature
WDA	Windfarm Development Area
WMP	Waste Management Plan
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator
UK	United Kingdom
UXO	Unexploded Ordnance

Glossary of Terms

Term	Definition
Breeding season	Furness (2015) defines breeding season as the period from modal return to the colony through to modal departure from the colony at the end of breeding, for birds at UK colonies.
Cable protection	Protective measure to minimise the effects of scour and hazards along the offshore cables (e.g. to prevent cable exposure or snagging of vessel anchors or fishing gear), as well as for protecting these cables at infrastructure crossing points.
Collision	The act or process of two moving objects colliding.
Development Area	Application boundary for consenting purposes which, for the Project, consists of a Windfarm Development Area, Offshore Export Cable Corridor, and Onshore Transmission Development Area. Separate consent and marine licence applications will be submitted for each Development Area where applicable.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed development over and above the existing circumstances (or 'baseline').
Environmental Impact Assessment (EIA) Regulations	A collective term referring to The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
Greenhouse gas	A gas in the Earth's atmosphere that traps heat by absorbing and emitting infrared radiation, a process known as the greenhouse effect. Also known by the collective shorthand "carbon".
MachairWind Offshore Windfarm	An offshore windfarm capable of exporting around 2 GW of renewable energy to the National Electricity Transmission System. MachairWind Offshore Windfarm comprises three Development Areas: • The WDA – located on the west coast of Scotland to the northwest of Islay and west of Colonsay; • The Offshore Export Cable Corridor – a preliminary boundary extending from the WDA to mean high water springs at a landfall location near Girvan, South Ayrshire; and • The Onshore Transmission Development Area – a preliminary boundary which extends landward from mean low water springs and includes the land required for the landfall of the offshore export cables and their route up to but not including the proposed high voltage direct current switching station which will be developed and constructed by Transmission Owner, ScottishPower Transmission. Separate consent and licence applications will be submitted for each Development Area.
Offshore cables	The collective term for all offshore cables i.e. IACs, offshore substation platform link cables, offshore export cables and associated fibre optic cables.
Offshore ECC infrastructure	The offshore transmission infrastructure located within the boundary of the Offshore Export Cable Corridor, namely the offshore export cable(s).
Offshore export cable	Armoured cable containing electrical cores between the offshore substation platform(s) and landfall. Offshore export cables will include bundled fibre optic cables. The offshore export cables are subject to Marine Licence applications under the Marine (Scotland) Act 2010. The portion of the offshore export cable(s) located within the WDA is assessed as part of this MachairWind WDA EIA and a marine licence application to construct, alter or improve this portion has been submitted alongside the WDA application. A separate marine licence application will be submitted for the

Term	Definition
	portion of the offshore export cable(s) from the WDA boundary to mean high water Mean High Water Springs.
Offshore Export Cable Corridor (ECC)	The preliminary boundary extending from the WDA to mean high water springs near Girvan, South Ayrshire and within which the offshore export cable(s) will be located. A separate marine licence application will be submitted for the offshore export cable(s) located within the Offshore ECC.
Offshore Substation Platform (OSP)	An offshore platform with a fixed foundation located within the WDA which houses electrical equipment such as transformers, switchgear, protection and control systems, and enables the windfarm's renewable electricity to be collected via inter-array cables and exported to the National Electricity Transmission System via offshore export cables.
Offshore Substation Platform (OSP) link cables	Electrical cables which link OSPs (if more than one OSP is required). These cables will include fibre optic cores or bundled fibre optic cables. OSP link cables will be wholly located within the WDA.
Onshore Transmission Development Area (OnTDA)	The preliminary boundary which extends landward from mean low water springs and includes the land required for the landfall of the offshore export cables and their route up to but not including the proposed high voltage direct current switching station which will be developed and constructed by Transmission Owner, ScottishPower Transmission. This Transmission Owner is responsible for consenting the high voltage direct current switching station. Onward connections to the National Electricity Transmission System will be consented by National Grid Electricity Transmission and ScottishPower Transmission. Where relevant, these are considered as part of cumulative effects assessment in the EIA.
OnTDA infrastructure	The onshore transmission infrastructure, for which the Applicant is responsible that is located primarily within the OnTDA, up to mean low water springs, and includes but is not limited to: landfall(s), onshore export cables, transition joint bays, telecom/SCADA infrastructure including vehicular access, joint bays, link boxes and temporary construction compounds. The OnTDA infrastructure will be subject to a planning application under the Town and Country Planning (Scotland) Act 1997.
Operational life	The operational life is the expected length of time from final commissioning of the WDA until the cessation of commercial operations. This is anticipated to be 35 years.
Safety zones	An area of water around or adjacent to a wind turbine generator or Offshore Substation Platform and associated substructure which is to be constructed, extended, operated or decommissioned, from which certain or all classes of vessels are excluded and within which activities can be regulated for the purpose of securing safety of the wind turbine generator, substructure or vessels in that vicinity, and individuals on both the wind turbine generator, substructure or vessel, in line with Section 95 of the Energy Act 2004.
Scour protection	Protective measures to avoid sediment being eroded away from the base of the wind turbine generator foundations as a result of the flow of water.
The Applicant	The legal entity submitting consent applications for the MachairWind Offshore Windfarm, namely MachairWind Limited.
The Project	MachairWind Offshore Windfarm including all its Development Areas and associated infrastructure.

Term	Definition
Windfarm Development Area (WDA)	The application boundary within the Option Agreement Area where consent will be sought for the proposed WDA infrastructure. The WDA infrastructure is subject to Section 36 consent and marine licence applications (generation and transmission) which are being applied for separately from the Offshore ECC infrastructure and OnTDA infrastructure.
WDA infrastructure	The offshore generation and transmission infrastructure located within the WDA including but not limited to: WTGs, WTG fixed foundations (and associated scour protection), OSP(s), OSP fixed foundations (and associated scour protection), IACs, OSP link and offshore export cable(s) and their associated external cable protection (insofar as these are located within the WDA) and fibre optic cables.
Wind Turbine Generator (WTG)	A wind turbine generator which converts wind energy into electrical energy. Each wind turbine generator is a complex system composed of a high number of components. Typically, the main components include the rotor assembly (composed of three blades and a hub); the nacelle (containing a generator, shaft and gearbox, power electronic converter and transformer); and the tower (containing lifting equipment and the switchgear).

1 INTRODUCTION

1.1 PROJECT BACKGROUND

1. The MachairWind Offshore Windfarm ('the Project') is being developed by MachairWind Limited ('the Applicant') with separate applications being submitted for each of its three Development Areas i.e. the Windfarm Development Area (WDA), the Offshore Export Cable Corridor (ECC) and Onshore Transmission Development Area (OnTDA). This Outline Environmental Management Plan (EMP) is provided in support of the application for the WDA although many of the details described will also be relevant to the Offshore ECC. The WDA is 448 km^2 and is located off the west coast of Scotland, to the northwest of Islay and west of Colonsay. The WDA infrastructure includes but is not limited to:

- Wind Turbine Generators (WTG) and associated fixed foundations and scour protection;
- Offshore Substation Platforms (OSP) and associated fixed foundations and scour protection;
- Inter-array cables and associated cable protection;
- OSP link cables and associated cable protection; and
- The portion of the offshore export cable(s) located within the WDA, and associated cable protection.

2. When operational, the WDA is anticipated to have a capacity of around 2 Gigawatts (GW) generated by up to 144 WTGs. This will have the potential to generate renewable electricity for up to two million UK homes, contributing to Scotland and the UK's transition to Net Zero and the UK's energy security in line with Government policy.

3. The earliest that WDA construction could commence is anticipated to be in 2030.

1.2 PURPOSE OF THIS DOCUMENT

4. This Outline EMP has been produced along with the Environmental Impact Assessment (EIA) Report (EIAR) to accompany application for consent and licenses for the Project to Marine Directorate - Licensing Operations Team (MD-LOT) under Section 36 of the Electricity Act 1989 and the Marine (Scotland) Act 2010. The Outline EMP relates to the Project's WDA infrastructure only and will establish a framework of measures to protect the marine environment during all stages of the Project. This EMP will inform the Final EMP which will be produced post-consent and prior to construction.

5. This Outline EMP relates to mitigation ID M-4 of **Appendix 5 WDA Mitigation and Commitments Register**.

6. A series of Engineering, Procurement, Construction and Installation contractors will be responsible for the detailed design, construction and installation of the main WDA infrastructure associated with the Project. These may be managed as individual contracts or as a framework.

7. Requirements within the EMP will be communicated to contractors, as required, to discharge the relevant consent and licence conditions and to communicate project environmental requirements and standards to facilitate incorporation into their Environmental Management Plans. The EMP will be the responsibility of the Applicant's Offshore Environmental Manager to manage in close working with the contractors.

1.3 SCOPE

8. This Outline EMP establishes an environmental management approach to be implemented by the Applicant and contractors to address the potential environmental sensitivities associated with the Project. It provides a mechanism to ensure that measures to mitigate potentially adverse environmental impacts are implemented throughout all stages of the Project, promotes good industry

practice standards and provides a framework for compliance auditing and inspection to enable the Applicant to be assured that the necessary levels of environmental performance are being met.

9. Potential impacts and effects are documented in the WDA EIAR, including embedded mitigation through project design and where necessary any additional mitigation to be adhered to during the construction and operation phases.

10. This Outline EMP is structured as follows:

- **Part 1** outlines the implementation and communication of environmental management practices, including information on:
  - Roles and responsibilities;
  - Communications and reporting procedures; and
  - Environmental training and awareness.
- **Part 2** includes information on environmental impacts and control measures relevant to key environmental aspects of the Project, with specific reference to the potential environmental impacts and mitigation commitments, including:
  - Comprehensive environmental management and compliance;
  - Offshore ornithology;
  - Benthic ecology;
  - Marine mammals;
  - INNS and Biosecurity
  - Marine archaeology and cultural heritage;
  - Dropped object in the marine environment;
  - Wastewater discharges;
  - Emissions to air;
  - Noise and Vibration;
  - Energy Fuel and Energy Consumption;
  - Waste Management; and
  - Oils, Fuels and Chemicals Management.

1.4 OTHER RELATED MANAGEMENT PLANS

11. This Outline EMP should be read in conjunction with the following application appendices:

- **Appendix 7 Marine Pollution Contingency Plan (MPCP)**;
- **Appendix 8 Invasive Non Native Species Management Plan (INNSMP)**;
- **Appendix 9 Draft Marine Mammal Mitigation Protocol (MMMP)**;
- **Appendix 10 Fisheries Mitigation, Monitoring and Communication Plan (FMMCP)**;
- **Appendix 11 Offshore Written Scheme of Investigation (WSI) and Protocol for Archaeological Discoveries**;
- **Appendix 12 Outline Lighting and Marking Plan;**
- **Appendix 13 Outline Vessel Management and Navigational Safety Plan; and**
- **Appendix 14 Carbon Management Plan**.

12. In accordance with guidance from MD-LOT ‘Mitigation and Monitoring Plans’ (MD-LOT, 2025), the content of the MCPC, INNSMP, FMMCP and WSI have been consulted on at the pre-application stage.

13. Other plans may also be required post consent depending on project specific requirements. An example of such a plan is the Project Environmental Monitoring Plan which will set out the Applicant’s commitments to monitoring the potential effects of the Project on key receptors, providing detail on how monitoring will be delivered across all stages of the Project.

1.5 FUTURE UPDATES OF THIS EMP

14. The Final EMP will be produced post-consent and prior to construction in accordance with an anticipated consent condition determined under Section 36 of the Electricity Act 1989 and associated Marine Licences determined under the Marine (Scotland) Act 2010.

15. The Final EMP will also be reviewed and updated as necessary prior to the commencement of the Operations and Maintenance (O&M) phase and in advance of decommissioning, aligning with the decommissioning programme to ensure suitable environmental management measures are in place.

1.6 LEGISLATION, POLICY AND GUIDANCE

16. The Outline EMP has been informed by IEMA Guidance on Environmental Management Plans (IEMA, 2008).

17. This plan has also been informed by several key pieces of legislation, policy, and guidance relevant to environmental management and control. Details of legislation, policy, and guidance relevant to environmental management and control can be found in the relevant sections of Chapters 7 to 16 of the WDA EIAR.

1.7 IMPLEMENTATION OF THE FINAL EMP

18. The Final EMP, as approved by the Scottish Ministers, will be formally integrated into the contractual agreements with the Principal Contractors tasked with executing the works. All parties involved, including contractors and their suppliers are required to comply with the environmental provisions outlined in the Final EMP, to ensure that all mitigation commitments are upheld. All contractors and associated suppliers are required to provide documentation to guarantee adherence to the compliance obligations of the Final EMP.

19. The EMP is an iterative document that will be developed and refined as the Project progresses through the detailed design process, procurement and construction.

20. **Section 2** provides an overview of the implementation procedures for the EMP.

2 PART 1: IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT PLAN

2.1 ROLES AND RESPONSIBILITIES

2.1.1 Overview

21. This section identifies key site staff, their environmental management responsibilities and how these link with other members of the Project Team, such as the Offshore Development Manager, the Project Health, Safety and Environmental (HSE) Manager(s), Environmental Manager and/or Advisors along with environmental specialists such as the Environmental Clerk of Works (ECoW), Fisheries Liaison Officers (FLOs) , Marine Mammal Observers or Archaeologists. The contact details for the key individuals listed should be included in the Final EMP.

22. Roles and/or responsibilities may be refined over the different stages of the Project. However, it is expected that the Applicant would employ a Principal Contractor who would be responsible for environmental management on site, including the preparation of environmental documentation. **Table 2.1** provides an overview of the roles and associated environmental responsibilities within the Project. Final definitions of environmental responsibilities will be agreed with MD-LOT before construction.

23. Environmental performance will be regularly communicated, with active encouragement of improvement opportunities and the sharing of lessons learned across the Project. Environmental

risks will be identified and managed effectively, and any incidents will be investigated with appropriate corrective actions taken. Communication of environmental performance and knowledge sharing will be provided consistently to Project leadership, senior management, and onsite delivery teams.

Table 2.1 Outline roles and responsibilities for the implementation and management of the EMP

Role	Responsibility*
Applicant's Project Director	Upholds the requirements of the EMP and environmental management standards across the Project lifecycle.
Applicant's HSE Manager	Manages and maintains HSE standards throughout construction and operations and maintenance (O&M).
Environmental Manager	Main point of contact on the Project for Environment management topics. The Environmental Manager is responsible for developing the Project Environmental Management System.
Applicant's Offshore Development Manager	Provides oversight to ensure full compliance with consent obligations and directs the preparation and execution of all related plans, including the EMP. The Environmental Manager will be responsible for the EMP during project execution.
Applicant's Head of Construction	Leads construction with a responsibility to uphold environmental management protocols.
Applicant's Package Manager	Consults with the Offshore Development Manager to carry out environmental measures within specific work areas/ packages.
Applicant's Stakeholder Engagement Manager	Communicates project updates to local communities. Coordinates with the Fisheries Liaison Officer.
Marine Coordinator (appointed by the Applicant)	Engages with the FLO to maintain communication regarding marine vessels and operations.
Independent Environmental Clerk of Works (ECoW)	Responsible for the quality assurance of environmental compliance plans.
Contractor Environmental Manager	Monitors contractors to ensure environmental protocols are upheld. Will ensure Contactor compliance with all environmental responsibilities in the EMP and supporting documents during the construction and O&M stages.
Archaeologist	Reports on archaeological matters, ensuring the requirements of the WSI are maintained.
Marine Mammal Observer	Oversees and reports marine mammal activity during piling, in accordance with the MMMP/Piling Noise Mitigation Strategy.
Fisheries Liaison Officer (FLO)	Ensures ongoing communication between the Project and commercial fisheries stakeholders.
**further details on the roles and responsibilities will be provided in the Final EMP.*	

2.1.2 Contact Details

24. A Project Contact Sheet will be developed prior to construction. The document will include contact details for the Applicant, as well as contractors and relevant third parties. The list will be updated throughout the lifecycle of the Project.

25. The following details will be provided for all individuals listed in the Project Contact Sheet:

- Company/organisation;
- Role;
- Name;
- Telephone number;
- Email address; and
- Office address.

2.2 ENVIRONMENTAL INDUCTION AND TRAINING

26. All contractors must receive appropriate induction and training to ensure adequate environmental management procedures are in place. Training includes inductions, tool box talks and emergency response, as outlined below.

2.2.1 Project and Vessel Inductions

27. Project inductions must include reference to compliance with the relevant requirements and conditions of the Project including those specific to vessel management practices.

28. A vessel induction must take place with all vessel personnel present. It must include an environmental component. The contractor's project team should nominate designated personnel to be responsible for the preparation and delivery of site induction and maintaining attendee records.

29. The environmental component of the vessel induction is expected to include reference to environmental management contacts, site specific environmental sensitivities, waste management arrangements, hazardous material management, fuel, oil, and chemical management, environmental emergency response, reporting of incidents and complaints.

2.2.2 Tool Box Talks

30. Tool box talks are an effective method for the dissemination of information relating to work activities. The contractor must deliver environmental tool box talks to all on-site personnel when required. Attendee records must be kept by the contractor as they are likely to be inspected as part of environmental audits.

2.2.3 Emergency Response

31. The contractor must ensure that all staff, including any sub-contractors, are trained in the Project environmental emergency response procedures. This is to ensure that they are able, and prepared, to respond to an incident promptly and effectively.

2.3 COMMUNICATION AND STAKEHOLDER MANAGEMENT

32. Communication between the Applicant and the local community will be maintained through the following communication channels:

- Community Engagement Manager to remain as first point of contact (email, in-person, or phone) between local communities and the Applicant, ensuring queries are responded to in a timely manner, concerns are addressed and social disruptions are minimised;
- Project website (www.machairwind.com), to be updated regularly, written in Plain English with information regarding Project developments and opportunities;
- Project's dedicated email (machairwind@scottishpower.com), which is monitored regularly by the Project stakeholder engagement team and promoted on public facing documents (such as newsletters); and
- Bi-annual community newsletter in print and/or digital will be published, which will complement other forms of engagement.

33. All communication will be managed by the Project communications and stakeholder engagement teams.

2.3.1 Internal Communication

34. The Offshore Development Manager will ensure communication between all internal stakeholders for matters relating to environmental requirements and consenting.

35. Internal communications will be finalised post-consent but are likely to involve regular progress meetings before and during construction, O&M activities, between the Project Team personnel and relevant Contractors/Subcontractors, including the ECoW as required.

36. Reviews of Contractor/Subcontractor Risk Assessment and Method Statements will be undertaken and copies of the relevant consents will be provided to the Contractors and/or Subcontractors. They will also be made aware of the consent obligations associated with a particular activity via environmental training and awareness sessions.

37. Regular environmental meetings and debriefs must be held local to the site. Frequent Health, Safety and Environment meetings must take place on all construction and maintenance vessels with representatives from the Project team and contractors. Minutes of meetings will be recorded, and standard agenda items will include the status of outstanding items, reports of environmental incidents or complaints, stakeholder engagement, tool box talks issued/delivered, and key findings of environmental inspections and audits.

2.3.2 External Communication

38. Communication with regulatory environmental agencies such as NatureScot, Historic Environment Scotland and MD-LOT will be facilitated by the Offshore Development Manager in consultation with the Stakeholder Engagement Manager. External communications, notifications and reporting including of any environmental incidents in relation to the Project activities will be carried out in accordance with the commitments included in the EIAR and the requirements of the consent conditions.

39. Communication with commercial fisheries will be as described within **Appendix 10 FMMCP**. The FMMCP sets out the means of ongoing fisheries liaison through construction and O&M phases of the WDA and details any mitigation measures to be put in place to limit effects on commercial fisheries activity. The Applicant will also appoint a FLO to facilitate this communication.

2.4 COMPLAINTS AND INCIDENT MANAGEMENT

2.4.1 Community Complaints

40. The Applicant values its relationship with the communities that surround the Project. All work would be carefully planned to minimise disturbance to neighbouring communities.

41. Contractors must ensure that any complaints are reported to the designated members of the project team and investigated promptly.

42. The final EMP will detail the procedure in place to report public complaints in relation to offshore works.

2.4.2 Emergency Response Plan

43. Contractors will be required to have an Emergency Response Plan.

44. The plan should include a response flow chart and detail how to report and respond to an environmental incident, including the measures available to contain/clean up an incident, manage dropped objects in the marine environment and offsite emergency response resources.

45. Vessels working on the Project over 400 Gross Tonnes (GT) will be required to have a Shipboard Oil Pollution Emergency Response Plan in accordance with the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I, Regulation 37, and the Merchant Shipping (Prevention of Pollution by Oil) Regulations 2010.

2.4.3 Reporting

46. All environmental incidents (including dropped objects into the marine environment) and near misses must be reported, investigated and recorded to designated members of the project team.

47. The Applicant is responsible for keeping MD-LOT informed of any incidents that may be of public interest. The Applicant's requirements for incident management and reporting are set out in the Health, Safety and Environmental Contractor Minimum Requirements (OFHS-GSC-000001) and specify:

"*all accidents/incidents (safety and environmental) must be reported verbally to the Employer representative immediately within 30 minutes and followed up with a brief written statement report/accident form within 24 hours. A full report must be received no later than 7 days from the incident*"

48. All contractors must have:

- A system for investigating incidents and conducting root cause analysis; and
- A process for sharing all findings and investigation reports with the Applicant, including interim reports where investigations exceed two weeks.

49. Where deemed necessary based on the nature, scale, or impact of the incident, the Applicant reserves the right to conduct its own investigation. The contractor will provide full support for this process. Contractors are required to produce monthly reports for designated members of the project team to record health, safety and environmental performance.

2.4.4 Lessons Learned/Incident Follow-up

50. If an environmental incident occurs, it must be thoroughly investigated by the relevant contractor to establish the root cause and prevent any recurrence. Dependent on the severity of the incident, the project team may wish to manage or assist with the investigation process.

3 PART 2: ENVIRONMENTAL MANAGEMENT AND CONTROL MEASURES

3.1 ENVIRONMENTAL MANAGEMENT SYSTEMS AND COMPLIANCE

51. This section provides an overview of the measures put in place to mitigate the environmental impacts of the Project. Within the final EMP, commitments made within the technical chapters of the EIAR will be translated into an appropriate format for their practical application in the scope of works of the relevant contractors or subcontractors. This method follows the Institute of Environmental Management and Assessment (IEMA)[1] Practitioner guide (IEMA, 2008), which states the following:

52. "The overall objective of an EMP is to provide a continuous link or 'bridge' between the design phase of the Proposed Development, conditions attached to consents, Proposed Development construction, and into the operational phase".

53. The Applicant operates an Environmental Management System (EMS) based on the requirements of ISO 14001:2015, which describes the processes and procedures by which the Applicant will identify and manage significant risks associated with its operations. The EMS is a primary mechanism by which environmental policy commitments, such as compliance with relevant legislation and standards, pollution prevention and continual improvement in environmental performance are delivered. The Applicant will be compliant with the requirements of the EMS.

54. The complete list of environmental management, mitigation and commitments will be provided in a Mitigation and Commitments Register. The Mitigation and Commitments Register will be derived from the commitments made within the EIAR, Section 36 consent and Marine Licence conditions and as such, adherence to the EMP will ensure compliance with the Section 36 consent and Marine Licences for the offshore Project. It will also serve as an audit trail of compliance throughout the construction and O&M stages of the Project. The Commitments Register will be updated, reviewed and approved internally to ensure compliance in advance of each stage of the Project.

55. Compliance with the EMP will be monitored by carrying out a number of audits during the various stages of the Project. This will ensure all Project personnel and Contractors are aware of the commitments and measures outlined within the EMP, as well as other legislation and policies relevant to their activities. Any non-compliance will be subject to identification of appropriate remedial measures and will be reported to relevant stakeholders as required.

3.2 MANAGEMENT OF KEY ENVIRONMENTAL ASPECTS

3.2.1 Benthic Ecology

56. Pre-construction surveys will be undertaken in advance of any cable and foundation installation works. The methodology of the pre-construction surveys would be agreed with MD-LOT.

57. Pre-construction surveys will be undertaken to determine if potential Priority Marine Features (PMF) 'Offshore Subtidal Sand and Gravels' are present within the proposed foundation locations or offshore cable routes. Should any PMF be identified in the proposed foundation locations and/or cable routes during the pre-construction surveys, micro-siting would be undertaken where possible, to minimise potential impacts.

58. The Applicant will develop and adhere to a Cable plan. The Cable plan will confirm planned cable routeing, burial, and any additional external cable protection, and will set out methods for post-

[1] At the time of publication, this guidance was issued by IEMA, now known as the Institute of Sustainability and Environmental Professionals (ISEP).

installation cable monitoring. Furthermore, this plan will detail environmental sensitivities and design considerations to mitigate, as far as practicable, the effects of offshore cable laying and associated protection during installation and operation of the WDA infrastructure. Where cables are buried to sufficient depth, significant effects on benthic receptors are not expected. The UK National Policy Statement for Renewable Energy Infrastructure (EN-3) states that where cables are buried to 'a depth of at least 1.5 m below the seabed, the applicant should not have to assess the effect of the cables on benthic habitats during the operational phase of the offshore wind farm'. It is currently expected that cables will be buried where practicable, but the target depth will vary depending on the cable type and ground conditions encountered (see **Chapter 3 Project Description**).

59. There is also the potential that it is not practicable to bury cables at all locations (e.g., in areas of hard substrate) and therefore there may be sections of surface laid cables with external cable protection.

3.2.2 Marine Mammals and Basking Shark

60. A construction method statement and Piling Noise Mitigation Strategy will be produced following detailed design to specify the procedures for soft start and ramp up of piling activity, in accordance with those assessed in **Chapter 10 Marine Mammals and Leatherback Turtle** of the EIAR.

61. A Marine Mammal Mitigation Protocol (MMMP) for Unexploded Ordnance (UXO) clearance and Piling Noise Mitigation Strategy in accordance with **Appendix 9 Draft MMMP** of the EIAR will detail the proposed mitigation measures to reduce the risk of any physical or permanent auditory injury to marine mammals during clearance and piling operations. The final MMMP for UXO and the Piling Noise Mitigation Strategy will be developed in consultation with MD-LOT.

62. Vessels will adhere to the guidelines laid out in the Scottish Marine Wildlife Watching Code where safe and appropriate to do so, to reduce the potential for vessel collision, by reducing vessel transit speeds and by maintaining speed and course when in the presence of marine mammal species. In the unlikely event that a collision event occurs, this will be reported on, and full information of the incident, including the marine mammal species, will be recorded.

63. Vessel movements to and from any port will be incorporated within existing vessel routes where possible.

64. In addition, as far as practicable, all vessels will remain at least 600 m from land following the Scottish Marine Wildlife Watching Code, therefore 600 m will be maintained from any protected seal haul-out sites during transit to and from the Project, to limit any potential for disturbance at seal haul-out sites.

65. During construction and O&M activities Project vessels will adhere to the Basking Shark Code of Conduct (The Shark Trust, n.d.) . Measures include:

- Do not chase or direct a vessel towards a basking shark;
- Reduce vessel speeds to less than 6 knots when basking sharks are sighted in the vicinity of the vessel during operations and transits (wherever practicable, taking into account vessel safety);
- If closer than 100 m, switch engine to neutral if safe to do so;
- Avoid sudden changes in speed; and
- Maintain a 100 m separation distance from a single basking shark or 500 m if sharks are in a large aggregation.

3.2.2.1 Protected Species Licensing

66. Where such activities are likely to result in disturbance or injury to protected species, the Applicant will apply for the necessary European Protected Species licences or other relevant consents from MD-LOT and/or NatureScot prior to the commencement of works.

67. All contractors and subcontractors will be made aware of these requirements through induction and tool box talks. Compliance with licence conditions will be monitored by the Applicant's Offshore Development Manager and the Independent ECoW and reported to MD-LOT as required.

3.2.3 Dropped Objects in the Marine Environment

68. A dropped objects in the marine environment procedure s will be developed to follow in the case of both floating and non-floating dropped objects. The procedure will detail who to report the incident to, where to document the incident, and methods for recovery. Designated members of the project team and the Regulator must review the procedure before contractors may begin work.

69. Dropped objects on the seabed during works associated with the WDA which may pose a hazard to navigation will be reported in line with MD-LOT procedures, using the dropped objects reporting form. Objects will be recovered where they pose a hazard to other marine users and where recovery is possible.

3.2.4 Unexploded Ordnance

70. Pre-construction surveys will be carried out to identify any potential UXO hazards within the WDA. If UXOs are detected, appropriate clearance or removal activities will be undertaken, along with adjustments to construction plans (such as micro-siting or cable re-routing) where necessary.

71. If a UXO is discovered following the completion of the initial survey and clearance process, the Applicant must be notified immediately through the appropriate communication channels.

3.2.5 Marine Archaeology and Cultural Heritage

72. Procedures for dealing with the discovery of marine archaeology during the Project's construction and O&M phases are detailed in **Appendix 11 Outline Written Scheme of Investigation and Protocol for Archaeological Discoveries**.

3.2.6 Offshore Ornithology

73. The final EMP will include the final procedures to be adopted within vessel transit corridors to minimise disturbance to seabird colonies during construction and O&M activities.

74. Potential impacts on seabirds during construction and O&M works will be mitigated through:

- Indicative vessel transit corridors routed to avoid passing through all marine SPAs including marine components of terrestrial breeding seabird SPAs. Indicative transit corridors also routed to be as distant as possible from marine SPAs with wintering waterbird features, which are particularly sensitive to vessel disturbance (see **Chapter 11 Offshore Ornithology**);
- Avoiding and minimising maintenance vessel traffic, where practicable, during the most sensitive time periods e.g. breeding season;
- Restricting vessel movements where practicable to existing navigation routes (where the densities of seabirds are typically relatively low);
- As far as practicable maintaining direct transit routes (to minimise transit distances through areas used by seabird colonies);
- Where it is necessary to go outside of established navigational routes, avoid rafting birds either en-route to the WDA from port and/or within the WDA (dependent on location) and where possible avoid disturbance to areas with consistently high diver density;
- Avoidance of over-revving of engines (to minimise noise disturbance); and
- Briefing of vessel crew on the purpose and implications of these vessel management practices (through, for example, tool box talks).

75. The Project team would make maintenance vessel operators aware of the importance of the relevant species and the associated mitigation measures through tool box talks.

76. In addition, the following protocols will be built into the construction and operational phases for monitoring, recording and handling of any birds attracted to lighting on WDA infrastructure or vessels. Bird handling protocols include information on:

1) How to manage lights on vessels and infrastructure to prevent birds landing, where practicable:

- Minimise the external visibility of interior lighting (e.g. through use of blinds); and
- Reduce/remove unnecessary external lighting sources.

2) How to react if a bird is stranded on a vessel or part of infrastructure:

- Keep records of the bird (including ID photos, date, location and weather conditions);
- Release all unharmed birds immediately after recording details and taking photos;
- If a bird is stunned or injured, hold the bird in a single, breathable, box in a cool dark place until it is recovered; and
- Inform authorities (e.g. local bird rescue group) to arrange pickup of any birds that are not fit to be released at sea.

3) What to do if authorities cannot pick-up a bird within a 24h time period:

- Release the bird, regardless of injuries.

3.2.7 INNS and Biosecurity

77. **Appendix 8 Invasive Non-Native Species Management Plan** has been developed to provide a systematic approach to the assessment and control of the Invasive Non-Native Species (INNS) risk during construction, O&M and decommissioning of the Project.

3.2.8 Other Marine Users

78. The management and mitigation of potential impacts on other marine users receptors are described in the following Management Plans:

- Fisheries Mitigation, Monitoring and Communication Plan;
- Outline Lighting and Marking Plan; and
- Vessel Management Plan and Navigational Safety Plan.

79. **Appendix 10 Fisheries Mitigation, Monitoring and Communication Plan** describes the mitigation, monitoring and communication that will be put in place to avoid or minimise the adverse effects of the Project on commercial fisheries, including how the Applicant will liaise and co-exist with the commercial fishing industry.

80. **Appendix 12 Outline Lighting and Marking Plan** sets out the marine and aviation navigational lighting and marking measures to be applied during the construction and operation of the WDA.

81. **Appendix 13 Outline Vessel Management and Navigational Safety Plan** is an outline plan provided to summarise the procedures for management and coordination of vessels to mitigate the impact of Project vessels.

3.2.9 Waste Management

82. A Waste Management Plan (WMP) will be developed and implemented to ensure that all wastes generated during the construction and O&M phases of the Project are managed in an environmentally responsible manner.

83. The WMP will embed circularity principles, and will be guided by the waste hierarchy, applying the following sequence of waste management options:

- Prevention;
- Re-use;
- Recycle;
- Other recovery; and
- Disposal.

84. As a minimum, the WMP will include:

- An assessment of anticipated waste streams and surplus materials;
- Clearly defined waste management goals specific to the Project;
- Proposed strategies for waste prevention, re-use and recycling;
- Procedures for the handling, storing and transport of materials; and
- Workforce training measures and a strategy for sharing the WMP with relevant personnel.

3.2.9.1 Waste Water Discharges

85. Controls for any waste water discharges (such as effluent discharges, ballast waters, bilge waters, and deck runoff) will be included in the final EMP, in accordance with the latest legislation, regulatory limits and good practice.

86. Monitoring records in relation to the disposal of foul water, bilge water or ballast water during the construction phase must be retained.

3.2.10 Emissions to Air

87. Vessel emissions associated with the Project will comply with MARPOL Annex VI requirements in relation to ozone depleting substances regulations, nitrogen oxide, sulphur oxide and particulate and volatile organic compounds. Where relevant, vessels must have a valid International Air Pollution Prevention certificate. **Appendix 14 Carbon Management Plan** is an outline document that presents an approach for reducing the greenhouse gas emissions across the Project's lifecycle.

3.2.11 Oils, Fuels and Chemical Management

88. **Appendix 7 Marine Pollution Contingency Plan (MPCP)** outlines the measures in place to effectively respond to and report marine pollution incidents during the construction, O&M phases of the Project.

89. It is the responsibility of each contractor to have in place adequate controls for the delivery, storage and use of fuels, oils and chemicals on vessels and other materials as required. The contractors must ensure they are complying with the relevant regulations and best practice guidance, including checks that chemicals can be used offshore.

90. Oils and chemicals must be clearly labelled and each contractor should retain an up-to-date hazardous substance register. Activities involving the handling of large quantities of hazardous materials, such as deliveries and refuelling, should have detailed method statements in place and be undertaken by designated and trained personnel.

91. Oil and fuel storage tanks must be robust and provide adequate secondary containment and be located in designated areas taking into account security, the location of sensitive receptors and pathways, and safe access and egress for plant and manual handling.

92. Pollution kits will be provided nearby and be readily accessible, with local project personnel trained in spill response.

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