Morven South Offshore Wind Array Project

Environmental Impact Assessment Report

Volume 4, Annex 5: Navigation Safety Plan and Vessel Management Plan (NSPVMP) (Version 1)

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Glossary

Term	Meaning
The Applicant	Morven Offshore Wind Limited (MvOWL).
Marine coordinator	Individual appointed by the Applicant, who will be responsible for managing activities associated with Morven North and Morven South.
Marine Guidance Note (MGN)	A system of guidance notes issued by the Maritime and Coastguard Agency (MCA) which provide significant advice relating to the improvement of the safety of shipping at sea, and to prevent or minimise pollution from shipping.
Morven North Offshore Wind Array Project (hereafter 'Morven North')	The Morven North Offshore Wind Array Project, which includes the wind turbines and foundations, OSPs and foundations, inter-array and interconnector cables and associated infrastructure located within the Morven North Boundary. Consent for the export cables for Morven North will be sought separately.
Morven South Offshore Wind Array Project (hereafter 'Morven South')	The Morven South Offshore Wind Array Project, which includes the wind turbines and foundations, OSPs and foundations, inter-array and interconnector cables and associated infrastructure located within the Morven South Boundary. Consent for the export cables for Morven South will be sought separately.
Offshore Substation Platforms (OSPs)	OSPs comprise the support structure, topside and electrical components used for collecting the electricity generated by the wind turbine generators for the passage or transmission to landfall. These OSPs can be divided into two types: • HVAC (High Voltage Alternating Current) collector substations; • HVDC (High Voltage Direct Current) converter substations.
Safety zones	A statutory marine zone demarcated for the purposes of safety around an installation.
Wind turbine	A machine that converts kinetic energy from the wind into electricity comprising the following main parts: nacelle, hub, blades, tower and drivetrain.

Acronyms

Acronym	Meaning
AIS	Automatic Identification System
AtoN	Aid to Navigation
BEIS	Department of Business, Energy, and Industrial Strategy
CAA	Civil Aviation Authority
COLREGs	Convention on International Regulations for Preventing Collisions at Sea
CTV	Crew Transfer Vessel
DSC	Digital Selective Calling
DWT	Dead Weight Tonnage
EIA	Environmental Impact Assessment
ERCoP	Emergency Response Cooperation Plan
ERP	Emergency Response Plan
ESRI	Environmental Systems Research Institute
GIS	Geographical Information System
GLA	General Lighthouse Authority
GV	Guard Vessel
HMCG	His Majesty's Coastguard
IALA	International Organization for Marine Aids to Navigation
IHO	International Hydrographic Organization
IMO	International Maritime Organization
KIS-ORCA	Kingfisher Information Service – Offshore Renewables & Cable Awareness
LAT	Lowest Astronomical Tide
LMP	Lighting and Marking Plan
LNtM	Local Notifications to Mariners
MAIB	Marine Accident Investigation Branch
MC	Marine Coordinator
MCC	Marine Coordination Centre
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate – Licensing Operations Team
MF	Medium Frequency
MGN	Marine Guidance Note
MOD	Ministry of Defence
MSi	Maritime Safety Information
NAVAREA	Navigation Area
Navtex	Navigational Telex

Acronym	Meaning
NLB	Northern Lighthouse Board
NSP	Navigational Safety Plan
NSPVMP	Navigational Safety Plan and Vessel Management Plan
NtM	Notifications to Mariners
O&M	Operation and Maintenance
OFTO	Offshore Transmission Owner
OREI	Offshore Renewable Energy Installation
OSP	Offshore Substation Platform
OSV	Offshore Supply Vessel
RAM	Restricted in their Ability to Manoeuvre
SOLAS	International Convention for the Safety of Life at Sea
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
VHF	Very High Frequency
VMP	Vessel Management Plan

Units

Unit	Meaning
km	Kilometre
m	Metre

1 Introduction

1.1 Background

1.1.1.1 The Morven North Offshore Wind Array Project (hereafter, "Morven North") and the Morven South Offshore Wind Array Project (hereafter, "Morven South') are both located within the Morven Option Lease Agreement Site (hereafter, "Morven Site") in Scottish offshore waters. Morven North is located approximately 61km from the Aberdeenshire coast (at its closest point) and Morven South is located approximately 86km from the Aberdeenshire coast (at its closest point) (see Figure 1.1). Each project will comprise wind turbines, Offshore Substation Platforms (OSPs), associated foundations, inter-array and interconnector cables and cable protection. Consent for the offshore export cables of Morven North and Morven South will be sought separately.

1.1.1.2 This combined Navigational Safety Plan (NSP) and Vessel Management Plan (VMP) (Version 1) (henceforth "NSPVMP") provides information relating to the navigational safety and vessel management of Morven North and Morven South during the construction, operation and maintenance phases of the projects, in accordance with relevant guidance. The final NSPVMP will detail the necessary information required to discharge the offshore consent conditions relevant to the NSP and VMP which is expected to be included in the Section 36 (S36) consents and associated conditions in the marine licences for Morven North and Morven South , however, at this application stage, the information provided is version 1 only and will be updated accordingly when detailed design and timelines are known.

[Figure 1.1 Placeholder for Morven North and Morven South location – to be inserted in final documents]

1.2 Objectives

1.2.1.1 Once completed post consent award, the aim of the final NSPVMP will be to satisfy the relevant consent conditions, as outlined in Table 1.1. This version of the NSPVMP is the version 1 document provided to summarise the relevant information to the Marine Directorate – Licensing Operations Team (MD-LOT) at the consent application stage, as well as to inform the development of the final NSPVMP. This information will be included in the final NSPVMP so as to ensure that the relevant consent conditions pertaining to navigational safety and vessel management are satisfied. It is acknowledged that as a version 1 document forming part of the applications for the two projects, the consent conditions are unknown, but this detail will be included in the final version of the NSPVMP for each project.

1.2.1.2 Where relevant, this NSPVMP gives due consideration to the relevant guidance applicable during the construction and O&M phases so as to minimise the impact of project vessels and navigational risk to other legitimate users of the sea. This NSPVMP is a shared document for both Morven North and Morven South, however it should be noted that it is intended that pre-construction, and once detailed design and timelines are known, two separate final NSPVMPs will be developed – one for each project.

1.2.1.3 Reviews and updates to the NSPVMP will be made as required (see Section 1.5) and based on the outputs of any future consultation with statutory stakeholders (including the MCA, NLB or any such industry advisers) or changes in best practice. The information provided in the NSPVMP (version 1) is accurate at the time of submission.

1.3 Consent compliance

1.3.1.1 The final NSPVMP will fulfil the consent conditions expected to be included in the S36 consents and marine licences for the preparation of a Navigational Safety Plan and a Vessel Management Plan, which will be outlined in Table 1.1 post consent award. The relevant sections of the NSPVMP will

also be highlighted in Table 1.1 signposting where this document addresses specific requirements of the consent conditions.

Table 1.1: Consent conditions relevant to the Navigational Safety Plan and Vessel Management Plan

Consent reference	Condition	Relevant section
[To be added post consent award]		

1.4 Linkages with other plans

1.4.1.1 A number of management plans will require approval from MD-LOT as well as relevant statutory stakeholders (such as the MCA and NLB) in compliance with the relevant consent conditions, with the NSPVMP being one such plan.

1.4.1.2 Other plans provide detailed information on some matters such as the proposed lighting and marking scheme, and proposed emergency response protocols. Therefore, to minimise the duplication of information, this NSPVMP (version 1) provides a summary of such information where appropriate and includes a reference to the associated plan where more detailed information can be found. Table 1.2 summaries the linkages with other plans referenced within this NSPVMP.

Table 1.2: Links with other plans

Plan	Details contained in plan	Reference
Lighting and Marking Plan (LMP)	Details both how Morven North and Morven South will be lit and marked in accordance with key guidance and policies, as well as how it has complied with stakeholder requirements. It will detail how Aids to Navigation (AtoN) associated with Morven North and Morven South will be managed, including maintenance, repair and emergency provisions (and as such will also be an Aids to Navigation Management Plan). As with the final NSPVMP, there will be separate final versions of this document for Morven North and Morven South.	An LMP (Version 1) is provided in Volume 4, Annex 4: Lighting and Marking Plan (Version 1).
Emergency Response Cooperation Plan (ERCoP)	Details relevant information relating to Morven North and Morven South regarding appropriate actions in the event of an emergency situation. As with the final NSPVMP, there will be separate final versions of this document for Morven North and Morven South.	The ERCoP is not provided as part of the application as this document will be provided in full post consent award.
Operation and Maintenance Plan	The Operation and Maintenance Plan will detail the procedures and good working practices for the O&M phase of Morven North and Morven South. As with the final	The Operation and Maintenance Plan is not provided as part of the application as this document will

Plan	Details contained in plan	Reference
	NSPVMP, there will be separate final versions of this document for Morven North and Morven South.	be provided in full post consent award.

1.5 Updates and amendments to the Navigational Safety Plan and Vessel Management Plan

1.5.1.1 It is acknowledged that this NSPVMP (and following provision of separate NSPVMPs for Morven North and Morven South pre-construction), will require updates in the future. The main reasons why a review, or change, may be required are as follows:

- significant change to the design of Morven North or Morven South;
- significant change in methods of construction, or the schedule of construction and O&M activities;
- significant changes in relevant baseline environment (such as port or offshore infrastructure developments which may result in an increase in vessel activity or significant change in movements);
- significant changes in legislation or best practice;
- significant project milestone, (i.e. transition from construction to O&M);
- scheduled reviews (reviews scheduled for all management plans at regular intervals to ensure content is as up to date as possible).

2 Navigational safety measures

2.1 Construction

2.1.1.1 The following subsections present the navigational safety measures that will be implemented by the Applicant during the construction phase of Morven North and Morven South.

2.1.2 Marine coordination

2.1.2.1 [Specific details of any marine coordination function to be added post consent award].

2.1.3 Temporary lighting and marking

2.1.3.1 The lighting and marking scheme for Morven North and Morven South during the construction phase, will be determined in line with International Organization for Marine Aids to Navigation IALA Guideline G1162 (IALA, 2022) and Recommendation R0139 (IALA, 2021) and in consultation with:

- Northern Lighthouse Board (NLB);
- Maritime and Coastguard Agency (MCA);
- Civil Aviation Authority (CAA);
- Ministry of Defence (MOD).

2.1.3.2 Further detail is provided in Volume 4, Annex 4: Lighting and Marking Plan (version 1).

2.1.4 Guard vessels

2.1.4.1 Guard vessels will be considered for Morven North and Morven South at particular times, with this determined by a risk assessment of the activities. One such example may be when construction vessels are particularly vulnerable due to partially completed works or a particular construction activity. Where guard vessels are active, the guard vessel(s) will monitor the construction area to provide an additional layer of protection to the area, and to provide additional information to third-party vessels.

2.1.4.2 A guard vessel may also be required to monitor safety zones, noting this will be further assessed as part of the safety zone application undertaken post consent award (see Section 2.1.5).

2.1.5 Safety Zones

2.1.5.1 Section 95 and Schedule 16 of the Energy Act 2004 set out the requirements for applying for a safety zone to be placed around or adjacent to an Offshore Renewable Energy Installation (OREI). The Electricity (Offshore Generating Substations) (Safety Zones) (Applications Procedures and Control of Access) Regulations 2007 clarify the requirements for applications. These regulations apply to territorial waters in or adjacent to Scotland, and within the Renewable Energy Zone.

2.1.5.2 Post consent award, an application will be made to MD-LOT, which will include:

- pertinent information from the Development Specification and Layout Plan;
- a summary of the construction programme;
- construction method statement documents;
- the proposed methodology for notifying relevant stakeholders.

2.1.5.3 It is intended that the following safety zones will be applied for during construction:

- rolling 500m safety zones around structures;
- pre-commissioning 50m safety zones around structures either partially completed or constructed but not yet commissioned.

2.1.6 Cable laying and other Restricted in their Ability to Manoeuvre operations

2.1.6.1 Vessels that are Restricted in Ability to Manoeuvre (RAM) will be utilised during the inter-array and interconnector cable installation works and heavy lifting operations. Vessels may become RAM as a result of the nature of the work they are undertaking and therefore have limited ability to avoid an approaching vessel(s). All RAM vessels involved in the construction of Morven North and Morven South will comply with the Convention on International Regulations for Preventing Collisions at Sea (COLREGs) (International Maritime Organization (IMO), 1972/77) and vessel type regulation information transmitted through AIS. They will also:

- Display lights and shapes to indicate their restrictions;
- Transmit safety warnings on Very High Frequency (VHF), using the "Securite" message where messages contain important information relating to navigation;
- Communicate with the Marine Coordination Centre (MCC) throughout operations;
- Show current navigational status at all times for the benefit of other vessels equipped with AIS.

2.1.6.2 Promulgation of cable laying activities will also be undertaken through the notification procedure, and, if necessary, following internal risk assessment, guard vessels may be deployed during the cable laying period.

2.1.7 Emergency Response Cooperation Plan and Emergency Response Plan

2.1.7.1 In compliance with the requirements of Marine Guidance Note (MGN) 654 (MCA, 2021(a)), an ERCoP will be produced in consultation with the MCA.

2.1.7.2 Additionally, the Applicant will also prepare an Emergency Response Plan (ERP), this is an internal document that will detail the emergency planning and response control measures to be implemented during the construction phase by all of the Applicant's personnel and contractors.

2.1.8 Injury, destruction or decay of Morven North or Morven South

2.1.8.1 The Applicant will notify the Scottish Ministers, in writing, in the case of injury to, destruction, or decay of Morven North or Morven South during the construction phase. The Scottish Ministers will advise of any remedial action to be taken and any requirements for AtoN to be displayed following consultation from the MCA, NLB or any such required advisers.

2.2 Operation and maintenance

2.2.1.1 The following subsections set out the navigational safety measures to be implemented by the Applicant during the O&M phase of Morven North and Morven South.

2.2.2 Marine coordination

2.2.2.1 [Specific details of any marine coordination function to be added post consent award].

2.2.3 Lighting and marking

2.2.3.1 The lighting and marking scheme for Morven North and Morven South during the O&M phase will be determined in line with International Organization for Marine Aids to Navigation IALA Guideline G1162 (IALA, 2022) and Recommendation R0139 (IALA, 2021) and in consultation with:

- Northern Lighthouse Board (NLB);
- Maritime and Coastguard Agency (MCA);
- Civil Aviation Authority (CAA);
- Ministry of Defence (MOD).

2.2.3.2 Further detail is provided in Volume 4, Annex 4: Lighting and Marking Plan (version 1).

2.2.4 Safety zones

2.2.4.1 The Applicant is not intending to utilise operational safety zones during normal operations. During times of major maintenance works, a temporary 500m statutory safety zone may be applied for under the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007. Minimum advisory safe passing distances, as defined by a risk assessment, may also be applied where safety zones do not apply (and will be promulgated through Local Notices to Mariners (LNtM)).

2.2.5 Restricted in their Ability to Manoeuvre operations

2.2.5.1 Vessels that are RAM may be used during cable maintenance and heavy lift operations. The same protocols outlined for the construction phase in Section 2.1.6 will apply, including compliance with COLREGs, use of the "Securite" message on VHF, communications with the MCC and the display of navigational status on AIS.

2.2.5.2 Promulgation of cable maintenance activities will also be undertaken through the same notification procedure and, if necessary, following internal risk assessment, guard vessels may be deployed during the cable maintenance period.

2.2.6 Emergency Response Cooperation Plan and Emergency Response Plan

2.2.6.1 In compliance with the requirements of Marine Guidance Note (MGN) 654 (MCA, 2021(a)), an ERCoP will be produced in close liaison with the MCA. This will consist of an update to the ERCoP produced for the construction phase.

2.2.6.2 Additionally, the Applicant will also continue to apply a separate ERP which will detail the emergency planning and response control measures to be implemented across the O&M phases by all of the Applicant's personnel and contractors. This will consist of an update to the ERP produced for the construction phase.

2.2.7 Injury, decay or destruction of Morven North or Morven South

2.2.7.1 The Applicant will notify the Scottish Ministers, in writing, in the case of injury to, destruction, or decay of Morven North or Morven South during the O&M phase. The Scottish Ministers will advise of any remedial action to be taken and any requirements for AtoN to be displayed following consultation from the MCA, NLB or any such required advisers.

3 Promulgation of information

3.1.1.1 This section provides details of the proposed approach to promulgation (distribution) of information and updates relating to Morven North and Morven South.

3.1.1.2 This will include:

- LNtM (Section 3.2);
- admiralty NtM (Section 3.3);
- updates to hydrographic charts (Section 3.4);
- notifications to Kingfisher bulletin (Section 3.5),
- radio navigational warnings (Section 3.6);
- UK marine reporting requirements (Section 3.7);
- any other notifications (Section 3.8).

3.2 Local Notifications to Mariners

3.2.1.1 LNtM will be issued in advance of any activity associated with Morven North and Morven South for which there is deemed to be a potential impact upon navigational safety. The LNtM will be issued to relevant local and national stakeholders and maintained to ensure contact details remain current and comprehensive. The United Kingdom Hydrographic Office (UKHO) will be included in the circulation list to allow them to determine whether the information should be included in their Weekly Admiralty NtM, as described in Section 3.3.

3.2.1.2 The structure of the LNtM will be succinct. To ensure this, the LNtM will be limited to inclusion of the items listed in Table 3.1.

Table 3.1: Content of Local Notifications to Mariners

Item	Description
Title	Clearly state that the document is a LNtM and a short relevant title about the scope of the topic. This will include the date of issue and the notification number.
Supplementary information	Details of the organisation and development issuing the LNtM and any relevant LNtM(s) issued prior to the current one.
Details	• date/time of start/finish and location of the works (co-ordinates); • vessels on site including call signs; • activity being undertaken; • specific risk to navigation.
Contact details	Sufficient details to allow mariners to contact the organisation issuing the LNtM including the MCC/24-hour emergency contact.
Guard vessel and safety zone details	Details of any guard vessels or safety zones present and enforced.
Hyperlinks to additional information	Provided only if absolutely necessary.

3.2.2 Local Notifications to Mariners issued prior to the commencement of construction

3.2.2.1 As soon as practicable prior to the start of construction activities, the Applicant will ensure that local mariners, fishermen's organisations, and His Majesty's Coastguard (HMCG), in this case the Joint Rescue Coordination Centre and Aberdeen Maritime Rescue Coordination Centre, are made fully aware of the Licensable Marine Activity through LNtM.

3.2.3 Local Notifications to Mariners upon commissioning and during operation and maintenance

3.2.3.1 Following the completion of the construction works for Morven North or Morven South (as relevant), the Applicant will ensure that local mariners, fisherman's organisations, and HMCG are made fully aware via LNtMs.

3.2.3.2 Likewise, where any planned or unplanned maintenance activities considered outwith standard daily maintenance activities are undertaken for Morven North or Morven South, the Applicant will ensure the same suite of stakeholders are informed via LNtM.

3.2.4 Post-commissioning

3.2.4.1 Following commissioning of Morven North or Morven South (as relevant), the Applicant will provide the "as built" positions and maximum heights of all infrastructure to the UKHO for aviation and nautical charting purposes.

3.3 Admiralty notices to mariners (United Kingdom Hydrographic Office)

3.3.1.1 Admiralty NtM are issued to the UKHO and are based on the information provided within LNtM. These are issued on a weekly basis by the UKHO and enable physical corrections to charts and associated publications. It is the responsibility of mariners to check the weekly editions of Admiralty NtM via the UKHO website and make any necessary corrections to the charts on board their vessel.

3.4 Hydrographic charts

3.4.1.1 The following information will be provided to the UKHO once known for the purposes of aviation and nautical charting:

- Locations of all wind turbines and construction equipment over 150m above Lowest Astronomical Tide (LAT);
- Maximum height of such structures;
- Details of fixed lighting fitted to all wind turbines.

3.4.1.2 Wind turbines will be charted by the UKHO (on appropriately scaled charts) using the wind turbine tower or offshore project area chart symbol (as presented in Symbols and Abbreviations used on ADMIRALTY Paper Charts NP5011 (UKHO, 2018)).

3.5 Kingfisher bulletins and Kingfisher Information Service – Offshore Renewables and Cable Awareness

3.5.1.1 The Kingfisher Information Service – Offshore Renewables & Cable Awareness (KIS-ORCA) project is a joint initiative between Subsea Cables United Kingdom (UK) and Renewable UK and is managed by the Kingfisher Information Service of Seafish. Information is available in fortnightly bulletins (Kingfisher – Offshore and Marine Renewables) or downloadable from the KIS-ORCA website.

3.5.1.2 Notification to the Kingfisher fortnightly bulletin may include for example, the following:

- an overview of Morven North and Morven South;
- roles and responsibilities;
- method statements relevant to the scope of the work for which the notification is issued;
- offshore activity schedule;
- navigational safety procedures;
- advisory safety zones;
- any relevant drawings or other project information.

3.5.1.3 The following subsections detail the KIS-ORCA notifications that will be promulgated for each of the construction and O&M phases of Morven North and Morven South.

3.5.2 Notifications prior to the commencement of construction

3.5.2.1 Prior to commencement of construction of Morven North and Morven South, the Applicant will promulgate relevant details in the Kingfisher fortnightly bulletins. Such details will include vessel routes, timing and locations of construction activities, and corresponding details of the nature of such activities.

3.5.3 Notifications during construction

3.5.3.1 Throughout the construction phase of Morven North and Morven South, the Applicant will promulgate relevant details in the Kingfisher fortnightly bulletins. Such details will include vessel routes, timing and locations of construction activities, and corresponding details of the nature of such activities. This will be managed via the MCC.

3.5.4 Notifications upon commissioning and during operation and maintenance

3.5.4.1 The Applicant will ensure that the commissioning of Morven North and Morven South is promulgated to the Kingfisher fortnightly bulletin to inform the commercial fishing industry.

3.5.4.2 The Applicant will ensure notices are issued to the Kingfisher fortnightly bulletin detailing any planned or unplanned maintenance activities out with standard daily maintenance undertaken at Morven North and Morven South.

3.6 Radio navigational warnings

3.6.1.1 Radio navigational warnings may be issued if an activity or incident poses a danger to other marine users. Examples of when radio navigational warnings could be issued are:

- AtoN failure;
- establishing new AtoN;
- cable laying activities, where a risk is posed to passing traffic;
- other underwater operations that may constitute potential dangers in or near shipping lanes;
- vessels not under command or undertaking significant RAM operations.

3.6.1.2 Once details of an activity have been issued through the standard LNtM process, the UKHO will then decide if the warning should be transmitted as a radio navigational warning. The UKHO will then issue the navigational warning.

3.6.1.3 The UKHO act as the Navigation Area (NAVAREA) 1 (NE Atlantic) Coordinator of the IMO and International Hydrographic Organization (IHO) Worldwide Navigational Warning Service and also as the UK coordinator for issuing coastal navigational warnings. The MCA however is the overarching body responsible for broadcasting radio navigation warnings and is the organisation responsible for charging levies to broadcast them.

3.6.1.4 The broadcasts are under the control of the UKHO but are typically made as follows:

- For vessels in NAVAREA 1, broadcasts are made through Enhanced Group Call Safety NET within 30 minutes of receiving the navigational warning, or at the next scheduled broadcast (every 12 hours);
- Broadcast by Navigational Telex (Navtex) twice a day as UK Coastal Navigational Warnings by appropriate Navtex stations at each transmission time (every 4 hours), or upon receipt of the information if it is of a vital nature;
- Broadcast by VHF or Medium Frequency (MF) radio at selected MCA stations at the next scheduled broadcast and every 12 hours thereafter.

3.7 United Kingdom marine reporting requirements

3.7.1.1 In addition, within UK waters, all vessels are required to report all incidents relating to navigational safety by the quickest means possible to the Marine Accident Investigation Branch (MAIB). The MAIB has a dedicated reporting line for all purposes (+44 (0)23 8023 2527), which is staffed 24 hours per day.

3.7.1.2 Information required shall include:

- details of the incident;
- details of the vessel(s) involved;
- details of personnel involved.

3.8 Other notifications

3.8.1.1 The Applicant will consult local Harbour Masters, where appropriate, who may wish to issue local warnings to those navigating in the vicinity of Morven North and Morven South. Of particular relevance may be those Harbour Masters for ports and harbours located on the Scottish east coast, and a definitive consultee list will be provided within the final NSPVMP once working ports for construction and O&M are confirmed.

4 Location of working ports

4.1 Construction ports

4.1.1.1 [Details of each port and their involvement in the delivery/transport/storage of construction parts and their role throughout the construction phase will be added once known]

4.2 Operation and maintenance ports

4.2.1.1 [Details of the port expected to be used during O&M as an O&M base will be added once known]

4.3 Other ports

4.3.1.1 In addition to the ports which will be listed above, other ports may be used during the construction and O&M phases, with these likely to be local to Morven North and Morven South. Information regarding any other ports used will, if necessary, be promulgated via methods outlined in Section 3.[Details of any mentioned ports used in the facilitation of CTVs/Guard Vessels (GV)/small vessels etc. throughout the project lifetime will be added once known]

5 Management and coordination of vessels

5.1.1.1 During the construction phase, the following measures of relevance to management and coordination of vessels will be in place:

- A Marine Coordinator (MC), appointed by the Applicant, will be responsible for managing construction activities;
- Permission for construction vessels to enter the construction area and safety zones will be managed by the MC, for example using a Permit to Work system;
- The MC will liaise with vessels with regards to agreed routeing destinations/berth/anchorage (where applicable);
- The MC will continually monitor vessels and personnel via communication with vessels and AIS for any potential vessel access conflicts. The MC will also detect and monitor unauthorised vessels;
- The MC will define safety zones, no-go locations etc.;
- The MC will obtain and provide localised weather information for vessels working on Morven North and Morven South to plan the work being undertaken;
- The MC will be the central contact point for contractors in the case of an emergency and will maintain a copy of the ERCoP;
- The MC will issue LNtM from contractors after being reviewed and approved by the Applicant.

5.1.1.2 All marine operations and vessel movements will be planned with due regard to the requirements of both Morven North and Morven South where there is a temporal overlap in activities.

5.1.1.3 During operation, similar provisions for vessel coordination will be established with marine coordination via the MC throughout the O&M phase. Further information on marine coordination during the O&M phase will be provided, for approval, in the Operation and Maintenance Plan.

6 Types and specifications of vessels

6.1.1.1 This section will outline the types and specifications of vessels to be utilised during the construction phase (Section 6.3) and O&M phase (Section 6.4). Depending on information available, the final NSPVMPs may include indicative vessels and specifications where specific vessels are not yet known, and these may vary depending on market availability.

6.2 Standards and requirements

6.2.1.1 Vessel crews must meet recognised standards and comply with the international maritime rules (as adopted by the relevant flag state) and regulations for their class and area of operation. The Applicant will conduct independent vessel audits on construction vessels as necessary to check that they meet these standards and are appropriate for the purpose of their desired role(s).

6.2.1.2 Vessel crews will be required to meet the requirements for the size, type and area of operation in line with Standards for Training, Certification and Watchkeeping as set out by the IMO, and any site specific requirements implemented by the Applicant above the minimum standards outlined above.

6.2.1.3 All vessels involved in the construction of Morven North and Morven South will be lit in accordance with the requirements of COLREGs (IMO, 1972/77). All construction vessels will be equipped with AIS receivers and transmitters.

6.2.1.4 The Applicant will require all construction vessels to comply with the procedures set out in this document and any other relevant plan.

6.3 Construction phase

6.3.1.1 The following subsections present examples of the vessel types that will be used during the construction works, specifically relating to:

- foundations, substructures, and OSP topside installation;
- inter-array and interconnector cable installation;
- wind turbine installation;
- construction support.

6.3.2 Foundations, substructures and Offshore Substation Platform topside installation

[Insert vessel type/name]

6.3.2.1 The foundations (both wind turbine and OSP), substructures and OSP topsides will be installed by a [insert vessel type/name]. The [insert vessel type/name] will collect the foundations and substructures from [insert port].

6.3.2.2 Key details of an indicative [insert vessel type/name] are presented in Table 6.1.

Table 6.1: [Insert vessel type/name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

6.3.3 Inter-array and interconnector cable installation

[Insert vessel type/name]

6.3.3.1 The inter-array and interconnector cables will be installed by a [insert vessel type/name]. The [insert vessel type/name] will collect the inter-array and interconnector cables from [insert port].

6.3.3.2 Key details of an indicative [insert vessel type/name] are presented in Table 6.2.

Table 6.2: [Insert vessel type/name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

6.3.4 Wind turbine installation

[Insert vessel type/name]

6.3.4.1 The wind turbines will be installed by a [insert vessel type/name]. The [insert vessel type/name] will collect the wind turbines from [insert port].

6.3.4.2 Key details of an indicative [insert vessel type/name] are presented in Table 6.3.

Table 6.3: [Insert vessel type/name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

6.3.5 Construction support

[Insert vessel type/name]

6.3.5.1 The construction support vessel will be [insert vessel type/name]. The [insert vessel type/name] will operate from [insert port].

6.3.5.2 Key details of an indicative [insert vessel type/name] are presented in Table 6.4.

Table 6.4: [Insert vessel type/name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

Crew Transfer Vessels

6.3.5.3 Crew Transfer Vessels (CTV) will be used during the construction phase to aid the transfer of equipment and personnel between shore and the offshore works. Key details of an example CTV, the [insert vessel name] are provided in Table 6.5.

Table 6.5: [Insert vessel name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

Offshore Supply Vessels

6.3.5.4 Offshore Supply Vessels (OSV) will be used during the construction phase to aid the transfer of equipment and personnel between shore and the offshore works. Key details of an example OSV, the [insert vessel name] are provided in Table 6.6.

Table 6.6: [Insert vessel name] key details

Vessel Parameter		Value or Detail
Name		
Type		
Contact		
Role		
Key characteristics	Length	
	Breadth	
	DWT	
Propulsion		
Mooring/station keeping		

6.4 Operation and maintenance phase

6.4.1.1 Similar vessels are likely required, at various times, to those described for construction in Section 6.3. These will include CTVs, jackup vessels, and cable repair vessels among others.

7 Numbers and movements of vessels

7.1 Construction vessels

7.1.1.1 The number of vessels within Morven North or Morven South at any one time will vary during the construction period, with peaks in vessel activity reflecting the timing of major installation works.

7.1.1.2 For each vessel type anticipated to be entering Morven North or Morven South, Table 7.1 will present the indicative number of vessels involved in construction, the main construction activities they will be involved in and the anticipated number of return journeys (a transit to Morven North or Morven South and then back to port) they will make (if available). It should be noted that the number of transits will be a best estimate based on the available information at the time of writing, and the actual numbers may differ during the construction phase.

Table 7.1: Construction vessel activities summary

Vessel type	Anticipated total number	Key construction activities	Approximate number of return journeys
[Details to be added post consent award]			

7.2 Operation and maintenance vessels

7.2.1.1 The number of vessels within Morven North or Morven South during the operations and maintenance phase at any one time will vary, with peaks in vessel activity reflecting the timing of major maintenance works. Consequently, it is not possible at this time to provide precise numbers of vessel movements during the operations and maintenance phase. Estimates based on current information will be provided in Table 7.2.

Table 7.2: Operational vessel activities summary

Vessel type	Anticipated total number	Key construction activities	Approximate number of return journeys
[Details to be added post consent award]			

8 Indicative transit corridors

8.1.1.1 The indicative transit corridors for the major construction vessels between Morven North and Morven South and the relevant construction ports will be presented in Figure 8.1.

[Figure showing indicative transit corridors relative to Morven North and Morven South to be added once known]

Figure 8.1: Indicative transit corridors

8.1.1.2 Indicative transit corridors are not intended to be prescriptive but do provide a general indication to third-party vessels of where they may expect an increased encounter rate with project related construction vessels.

8.1.1.3 All vessels shall passage plan as per the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974). In addition, project related construction vessels may deviate from the indicative transit corridors at the discretion of the vessel Master. Circumstances where this may occur include:

- To ensure compliance with COLREGs as required;
- To account for prevailing weather, tidal, or sea state conditions;
- To account for navigational hazards as indicated on charts, or notified through NtM or such sources;
- Where indicative transit corridors do not account for the origin or destination of the project related construction vessel;
- Where instructions are issued by the MCC or other responsible persons in charge of coordinating and managing construction vessel traffic;
- Any other reason the vessel Master may deem relevant for the purpose of ensuring the safety of their vessel or another.

9 Sheltering and anchoring areas

9.1 Sheltering areas

9.1.1.1 Given the potential for interaction between project vessels sheltering and fisheries interactions, it may be necessary to define specific locations within which project vessel will not shelter in. These areas, where identified, will take into account working ports and fishing activity including relevant consultation and be described fully in the final NSPVMP.

9.2 Anchoring areas

9.2.1.1 Due to water depths, there are no anchorage areas in the vicinity of Morven North and Morven South. However, if anchoring is required for any operation, then Figure 9.1 will present the locations of designated anchorages in the vicinity of Morven North and Morven South at the time of the final NSPVMPs being produced. Details pertaining to the anchorage areas noted in the North Sea (West) pilot (NP54) (UKHO, 2021) will be provided in Table 9.1.

9.2.1.2 Anchoring is at the discretion of the vessel Master but can be in conjunction with the information provided by the MCC or port authorities, where relevant; however, standard marine practice requires that when a vessel proceeds to anchor, consideration is given to:

- water depth;
- seabed type and charted hazards including cables/pipelines;
- weather and tidal information including current and predicted weather;
- avoidance of prohibited anchorage areas;
- consideration of other anchored vessels;
- avoidance of known areas of other marine activity such as fishing or recreational boating;
- avoidance of main commercial routes, pilot boarding area or other navigational features such as spoil grounds or subsea cables.

9.2.1.3 All vessels associated with Morven North and Morven South will take the above into consideration prior to anchoring as per standard marine practice. Construction and O&M vessels requiring anchorage within Morven North or Morven South will request permission to do so from the MCC.

[Figure showing designated anchorages in proximity to Morven North and Morven South to be added]

Figure 9.1: Designated anchorages in proximity to Morven North and Morven South

Table 9.1: Summary of anchorage areas noted in the North Sea (West) pilot [NP54] in proximity to Morven North and Morven South

Anchorage number	Anchorage name	Description
[Anchorage details to be added post consent award]		

10 Environmental sensitivities relevant to vessel management

10.1.1.1 [This section will summarise the marine mammal, bird and any other environmental sensitivities relevant to vessel traffic associated with the construction and operation and maintenance of Morven North and Morven South (where applicable). This section shall also describe the indicative transit corridors as detailed in Section 8 above in the context of the environmental sensitivities, once these transit corridors are known].

11 Compliance with Marine Guidance Note 654

11.1.1.1 The relevant consent conditions are likely to require Morven North and Morven South to demonstrate that the final NSPVMP has adequately addressed all of the recommendations of MGN 654 and its annexes (MCA, 2021(a), MCA, 2024) that may be appropriate to Morven North and Morven South, or any other relevant document which may supersede said guidance prior to approval of the final NSPVMP.

11.1.1.2 MGN 654 (MCA, 2021(a)) therefore will be reviewed and all appropriate recommendations (at this pre-construction stage of the development) identified. In each case it will be indicated where each of these recommendations has been addressed within this NSPVMP (or other relevant plan) for Morven North and Morven South. The review summary will be provided in Table 11.1 for the final NSPVMPs post consent award. The MGN 654 checklist is provided in full within Volume 3, Annex 13.1: Shipping and Navigation Shared Navigational Risk Assessment.

Table 11.1: Marine Guidance Note 654 compliance

MGN 654 section	Checklist	Where addressed
4.5 Site and Installation Co-ordinates.	Developers are responsible for ensuring that formally agreed co-ordinates and subsequent variations of site perimeters and individual OREI structures are made available, on request, to interested parties at relevant project stages, including application for consent, development, array variation, operation, and decommissioning. This should be supplied as authoritative Geographical Information System (GIS) data, preferably in Environmental Systems Research Institute (ESRI) format. Metadata should facilitate the identification of the data creator, its date and purpose, and the geodetic datum used. For mariners' use, appropriate data should also be provided with latitude and longitude co-ordinates in WGS84 (ETRS89) datum.	[To be added post consent award]
4.10 Assessment of Access to and Navigation Within, or Close to, an OREI	It should be determined to what extent navigation would be feasible within or near to the OREI site itself by assessing whether: a. Navigation within and/or near the site would be safe: i. for all vessels, or ii. for specified vessel types, operations and/or sizes. iii. in all directions or areas, or iv. in specified directions or areas. v. in specified tidal, weather or other conditions. b. Navigation in and/or near the site should be prohibited or restricted: i. for specified vessel types, operations and/or sizes,	[To be added post consent award]

MGN 654 section	Checklist	Where addressed
	ii. in respect of specific activities, iii. in all areas or directions, or iv. in specified areas or directions, or v. in specified tidal or weather conditions, or simply vi. recommended to be avoided c. Where it is not feasible for vessels to access or navigate through the site it could cause navigational, safety or routeing problems for vessels operating in the area e.g. by preventing vessels from responding to calls for assistance from persons in distress d. Guidance on the calculation of safe distance of OREI boundaries from shipping routes has been considered	
4.11 Search and rescue, maritime assistance service, counter pollution and salvage incident response.	a. An ERCoP will be developed for the construction, operation and decommissioning phases of the OREI.	[To be added post consent award]
	b. The MCA's guidance document Offshore Renewable Energy Installation: Requirements, Advice and Guidance for Search and Rescue and Emergency Response for the design, equipment and operation requirements will be followed.	[To be added post consent award]
	c. A SAR checklist will be completed to record discussions regarding the requirements, recommendations and considerations outlined in the above document (to be agreed with MCA)	[To be added post consent award]
4.12 Hydrography	In order to establish a baseline, confirm the safe navigable depth, monitor seabed mobility and to identify underwater hazards, detailed and accurate hydrographic surveys are included or acknowledged for the following stages and to MCA specifications: i. pre-construction: The proposed generating assets area and proposed cable route; ii. on a pre-established periodicity during the life of the development; iii. post-construction: Cable route(s); iv. post-decommissioning of all or part of the development: the installed generating assets area and cable route.	[To be added post consent award]
4.14 Risk mitigation measures recommended for OREI during construction,	Promulgation of information and warnings through notices to mariners and other appropriate Maritime Safety Information (MSI) dissemination methods.	[To be added post consent award]

MGN 654 section	Checklist	Where addressed
operation and decommissioning.	Continuous watch by multi-channel VHF, including Digital Selective Calling (DSC).	[To be added post consent award]
	Safety zones of appropriate configuration, extent and application to specified vessels.	[To be added post consent award]
	Provision of AtoN as determined by the General Lighthouse Authority (GLA).	[To be added post consent award]
	Monitoring by radar, AIS, Closed-Circuit Television or other agreed means.	[To be added post consent award]
	Appropriate means for OREI operators to notify, and provide evidence of, the infringement of safety zones.	[To be added post consent award]
	Creation of an ERCoP with the MCA's Search and Rescue Branch for the construction phase onwards.	[To be added post consent award]
	Use of guard vessels, where appropriate	[To be added post consent award]

12 Compliance with the application

12.1.1.1 In addition to the Section 36 consent conditions and marine licence conditions presented in Section 1.3, any other consent conditions received which have also been considered will be outlined in Table 12.1, including where they have been addressed in this NSPVMP.

Table 12.1: Compliance with the Morven North and Morven South Environmental Impact Assessment reports

Source	Measure	Where addressed
[To be added post consent award]		

13 References

IALA (2021). IALA Recommendations O-139 on the Marking of Man-Made Offshore Structures. Edition 3.0. Saint Germain en laye, France: IALA.

IALA (2022). IALA Guideline G1162 on the marking of Offshore Man-Made Structures. Edition 1.1. Saint Germain en Laye, France: IALA.

IMO, 1972. Convention on International Regulations for Preventing Collisions at Sea (COLREGs) . IMO: London.

IMO, 1974. International Convention for the Safety of Life at Sea (SOLAS). IMO: London.

MCA, 2021(a). Marine Guidance Note 654 (Merchant and Fishing) safety of Navigation: offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response. Southampton: MCA.

MCA, 2021(b). Emergency Response Cooperation Plans (ERCoP): Template for Construction, Operations and Decommissioning phases. Southampton: MCA.

MCA, 2024. Marine Guidance Note 654 (Annex 5): Offshore Renewable Energy Installations: Requirements, guidance and operational considerations for SAR and Emergency Response. Southampton: MCA.

UKHO, 2018. ADMIRALTY: Symbols And Abbreviations Used On ADMIRALTY Paper Charts (NP5011). Taunton: UKHO

UKHO, 2023. NP66B North-West Coast of Scotland Admiralty Sailing Directions. Taunton: UKHO.