

MORAY OFFSHORE WINDFARM (WEST) LIMITED

Vessel Management and Navigation Safety Plan

Document Name: 8460005-DBHA07-MWW-PLN-000001

Revision: 05

Status: Final

Date: 04-11-2022

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Version Control				
Revision	Date	Status	Revision Description	Distribution List
01	25-04-2022	Draft	Draft for internal review	Viewpoint
02	30-05-2022	Final	Issue to MS-LOT	MS-LOT
03	26-07-2022	Final	Issue to MS-LOT	MS-LOT
04	28-09-2022	Final	Issue to MS-LOT (amendments to address consultee comments)	MS-LOT
05	04-11-2022	Final	Issue to MS-LOT (amendments to address consultee comments)	MS-LOT

Document Approval				
Prepared by:	ECoW Review by:	Legal Review by:	Approved by:	Approved by:

Plan Overview

Purpose and Objectives of the Plan

This Vessel Management and Navigation Safety Plan (VMNSP) has been prepared to address the specific requirements of the relevant conditions attached to the Section 36 (S36) consent and Marine Licences (collectively referred to as 'offshore consent conditions') issued to Moray Offshore Windfarm (West) Limited (Moray West).

The offshore consent conditions require submission of both a Vessel Management Plan (VMP) and Navigational Safety Plan (NSP). However, given there are elements of both plans that are of direct relevance to each other, as agreed with Marine Scotland Licensing Operations Team (MS-LOT), the VMP and NSP are being submitted as a single VMNSP.

The relevant conditions discharged by the VMNSP are detailed in Table B3.1 in Appendix B, which also outlines where in this document the specific requirements of the offshore consent conditions are met. This document applies to vessel management and navigational safety of the Moray West Offshore Wind Farm and Offshore Transmission Infrastructure (OfTI) (collectively referred to as 'the Development'), in accordance with the relevant guidance, during construction and operation.

Scope of the Plan

This VMNSP has been produced for the purpose of providing the required information to the Scottish Ministers and Licensing Authority on vessel management and navigational safety during the construction and Operation and Maintenance (O&M) phases, in order to mitigate the impact of project vessels and the navigational risk to other legitimate users of the sea. Decommissioning of the Development will require a separate Marine Licence and therefore consideration of the vessel management and navigational safety will be undertaken at the time of decommissioning to support the Marine Licence application. Therefore, this VSMNP does not consider the decommissioning phase of the Development.

The information provided in this document is based on the current understanding of the baseline environment and how the Development will be constructed and operated using the best available technologies, in compliance with current legislation and best practice at the time of writing.

Structure of the Plan

In response to the requirements of the offshore consent conditions, this VMNSP has been structured to clearly set out how each part of the specific requirements has been met and that the relevant information to allow the Scottish Ministers to approve the VMNSP has been provided. The document structure is set out below.

VMNSP Document Structure

Section		Summary of Contents
1	Introduction	Background to consent requirements and overview of the VMNSP scope and structure.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

		Identifies those other consent plans relevant to the construction and operation of the Development and the linkage between those plans and the VMNSP.
2	Navigational Safety Measures during Construction	Sets out the navigational safety measures to be adopted during the construction phase including: lighting and marking, buoyage, radio and radar beacons, guard vessels, safety zones, management of the buoyage and safety zones, cable laying and other restricted in ability to manoeuvre (RAM) operations, the Emergency Response Cooperation Plan (ERCoP) and injury, destruction or decay of the Development.
3	Navigational Safety Measures during O&M	Sets out the navigational safety measures to be adopted during the O&M phase including: lighting and marking, marine coordination, safety zones, RAM operations, subsea cable inspections, the ERCoP and injury, destruction or decay of the Development.
4	Promulgation of Information	Sets out the Notice to Mariners (NtMs) and other notifications to be promulgated at various stages of the Development (prior to, during and following construction and operation).
5	Location of Working Ports	Describes the potential location and specifications of the construction ports.
6	Management and Coordination of Vessels	Summarises the process for the management and coordination of vessels during the construction and O&M phases of the Development.
7	Types and Specifications of Vessels	Describes the types of vessels that will be used during the construction and O&M phases of the Development.
8	Numbers and Movements of Vessels	Describes the numbers of vessels during the construction and O&M phases of the Development and the anticipated movements between the Development and ports.
9	Indicative Transit Route Corridors	Sets out the indicative vessel transit routes that may be used during the construction and O&M phases of the Development.
10	Anchoring Areas	Describes the areas recommended by Admiralty Sailing Directions and Admiralty Charts for anchoring (and Areas to be Avoided (ATBA)).
11	Compliance with MGN 654	States compliance of the VMNSP with MGN 654 (MCA, 2021) and provides reference to Appendix C where the relevant requirements have been presented and addressed.
12	References	Provides a list of references used within this VMNSP.
Appendix A	Defined Terms	Provides a list of defined terms used within this VMNSP.
Appendix B	Development Background Information	Provides an overview of the project relevant to the VMNSP.
Appendix C	MGN 654 Compliance	Checklist of MGN 654 requirements of relevance to the VMNSP

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Appendix D	Commercial Fishing Interaction Standard Operating Procedures	Describes the fisheries practices that are undertaken in the vicinity of the wind farm and the export cables and the key seasons of such fishing; the potential interactions that Moray West vessels may have with commercial fishing vessels, their crew and fishing gear; and the key steps required when such an interaction occurs.
------------	--	---

Plan Audience

The VMNSP is intended to be referred to by personnel involved in the construction and operation of the Development, including Moray West personnel and Contractors.

Compliance with this VMNSP will be monitored by the Moray West Development team, Moray West's Environmental Clerk of Works (ECOW), and MS-LOT.

Plan Locations

The latest version of this VMNSP can be obtained from Moray West's document management system, Viewpoint For Projects and from Marine Scotland website¹. Copies of the VMNSP are also to be held in the following locations:

- Moray West's main project office in Edinburgh;
- with the Moray West Marine Coordinator (MC);
- with the Moray West ECoW(s).

¹ <https://marine.gov.scot/ml/moray-west-offshore-windfarm>

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table of Contents

Scope of the Plan	3
Abbreviations and Acronyms	9
1 Introduction	11
1.1 Background	11
1.2 Purpose and Objectives of the VMNSP	11
1.3 Linkages with other Consent Plans	12
1.4 Document Control.....	12
2 Navigational Safety Measures during Construction	14
2.1 Marine Coordination.....	14
2.2 Temporary Lighting and Marking.....	14
2.3 Radio and Radar Beacons.....	14
2.4 Guard Vessels.....	14
2.5 Construction Safety Zones	14
2.6 Management of Buoyed Construction Area Including Safety Zones	15
2.7 Cable Installation and Other RAM Operations	15
2.8 ERCoP	16
2.9 Injury, Destruction, or Decay of the Development.....	16
3 Navigational Safety Measures during Operation and Maintenance	17
3.1 Marine Coordination.....	17
3.2 Operational Lighting and Marking	17
3.3 Safety Zones during the O&M Phase	17
3.4 RAM Operations.....	17
3.5 Subsea Cable Inspections.....	18
3.6 ERCoP and ERP	18
3.7 Injury, Decay, and Destruction of the Development	18
4 Promulgation of Information	19
4.1 Weekly Notice of Operations.....	19
4.2 Local Notices to Mariners	19
4.3 Admiralty Notices to Mariners (UKHO).....	21
4.4 UK Nautical and Aviation Charts	21

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

4.5	Kingfisher Bulletins and KIS-ORCA	22
4.6	Radio Navigational Warnings	22
4.7	UK Marine Reporting Requirements	23
4.8	Other Notifications	24
5	Location of Working Ports	25
5.1	Construction Ports	25
5.2	Operation and Maintenance Ports	25
5.3	Other Port Options.....	26
6	Management and Coordination of Vessels.....	27
7	Types and Specification of Vessels.....	29
7.1	Standards and Requirements.....	29
7.2	Construction Phase	29
7.3	Seabed Preparation.....	30
7.4	Pile Foundation and Support Structure Installation	32
7.5	Offshore Substation Platform Topsides Installation	34
7.6	Inter-Array and OSP Inter-connector Cable Installation	34
7.7	Wind Turbine Generator Installation	37
7.8	Offshore Export Cable Installation	39
7.9	Construction Support Vessels	40
7.10	Guard Vessels.....	41
7.11	The number of guard vessels and their work class is expected to vary throughout construction depending upon the location and type of construction activities underway. Operational Phase	41
8	Numbers and Movements of Vessels	43
8.1	Construction Vessels	43
8.2	O&M Vessels	45
9	Indicative Transit Route Corridors	46
10	Anchoring.....	48
10.1	Anchorage Areas	48
10.2	Anchoring Areas to be Avoided	51
11	Compliance with MGN 654	52
12	References	53

Moray Offshore Windfarm (West) Limited
Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Appendix A – Defined Terms 54

Appendix B - Development Background Information..... 56

Appendix C - MGN 654 Compliance..... 72

Appendix D - Commercial Fishing Interaction Standard Operating Procedures (SOPs) 76

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Abbreviations and Acronyms

Acronym / Abbreviation	Description
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aid
ATBA	Area to be Avoided
AtoN	Aid to Navigation
BEIS	Department of Business, Energy, and Industrial Strategy
CAA	Civil Aviation Authority
CFLO	Company Fisheries Liaison Officer
CLV	Cable Laying Vessel
CMS	Construction Method Statement
COLREGs	International Regulations for the Prevention of Collisions at Sea
CSV	Construction Support Vessel
CTV	Crew Transfer Vessel
DECC	Department of Energy & Climate Change
DGC	Defence Geographic Centre
DoL	Depth of Lowering
DP	Dynamic Positioning
EIA	Environmental Impact Assessment
ERCoP	Emergency Response Cooperation Plan
ERP	Emergency Response Plan
ERRV	Emergency Response Rescue Vessel
EMP	Environmental Management Plan
FPV	Fall Pipe Vessel
HDD	Horizontal Directional Drilling or Horizontally Drilled Duct
HLV	Heavy Lift Vessel
HMCG	Her Majesty's Coastguard
IHO	International Hydrographic Organization
IMO	International Maritime Organization
ISV	Installation Support Vessel
JUV	Jack-Up Vessel
KIS-ORCA	Kingfisher Information Service – Offshore Renewable & Cable Awareness
kW	Kilowatt
LMP	Lighting and Marking Plan
LNtM	Local Notice to Mariners
LOA	Length Overall
m	Metre
MAIB	Marine Accident Investigation Branch
MCA	Maritime and Coastguard Agency
MC	Moray West Marine Coordinator
MF	Medium Frequency
MGN	Marine Guidance Note

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Acronym / Abbreviation	Description
MoD	Ministry of Defence
MRCC	Maritime Rescue Coordination Centre
MS-LOT	Marine Scotland Licensing Operations Team
NAVAREA	Navigation Area
Navtex	Navigational Telex
NLB	Northern Lighthouse Board
NSP	Navigational Safety Plan
NOTAM	Notice to Airmen
NtM	Notice to Mariners
OfCom	Office of Communications
OFLO	Offshore Fisheries Liaison Officer
OfTI	Offshore Transmission Infrastructure
OFTO	Offshore Transmission Owner
O&M	Operation and Maintenance
OMP	Operation and Maintenance Programme
OREI	Offshore Renewable Energy Installation
OSP	Offshore Substation Platform
OSV	Offshore Service Vessel
OWF	Offshore Wind Farm
PEMP	Project Environmental Monitoring Programme
PSV	Platform Supply Vessel
RAM	Restricted in Ability to Manoeuvre
ROV	Remotely Operated Underwater Vehicle
RYA	Royal Yachting Association
SFF	Scottish Fishermen's Federation
SNCB	Statutory Nature Conservation Body
SNH	Scottish Natural Heritage
SOV	Service Operations Vessel
TSV	Trenching Support Vessel
UKHO	United Kingdom Hydrographic Office
VHF	Very High Frequency
VMP	Vessel Management Plan
VMNSP	Vessel Management and Navigation Safety Plan
WTG	Wind Turbine Generator

1 Introduction

1.1 Background

The Moray West Offshore Wind Farm and associated Offshore Transmission Infrastructure (OfTI) (referred to as ‘the Development’) is being developed by Moray Offshore Windfarm (West) Limited (known as ‘Moray West’; see Appendix A for defined terms). Consent for the Development was granted on 14 June 2019 under Section 36 (S36) of the Electricity Act 1989 (as amended), Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 from Scottish Ministers. One S36 consent was granted by Scottish Ministers for the wind farm (012/OW/MORLW – 8) and two Marine Licences were granted by Scottish Ministers, one for the wind farm (MS-00009774) and another for the offshore transmission infrastructure (MS-00009813).

Variations of the S36 consent and Wind Farm Marine Licence (licence number: MS-00009774) were granted by the Scottish Ministers on 7 March 2022, and further variations of the Wind Farm Marine Licence (licence number: MS-00009774) and OfTI Marine Licence (licence number: MS-00009813) were granted on 11 April 2022. The revised S36 consent and associated Marine Licences are referred to collectively as ‘Offshore Consents’.

Further details of Moray West and the Development can be found in Appendix B Development Background Information.

1.2 Purpose and Objectives of the VMNSP

This Vessel Management and Navigational Safety Plan (VMNSP) has been produced for the purposes of satisfying conditions 15 and 17 of the S36 consent and associated conditions in the Marine Licences which require the drafting of a Vessel Management Plan (VMP) and Navigational Safety Plan (NSP) respectively. Given there are elements of both plans that are of direct relevance to each other, as agreed with Marine Scotland Licensing Operations Team (MS-LOT), the VMP and NSP are being submitted as a single document.

The relevant offshore consent conditions discharged by the VMNSP are detailed in Appendix B (Table B3.1), which also outlines where in this document the specific requirements of the consent conditions are met. This document applies to vessel management and navigational safety of the Development, in accordance with the relevant guidance, during construction and operation.

This VMNSP has been produced for the purpose of providing the required information to the Scottish Ministers and Licensing Authority on vessel management and navigational safety during the construction and Operation and Maintenance (O&M) phases, in order to mitigate the impact of project vessels and the navigational risk to other legitimate users of the sea.

The information provided in this document is based on the current understanding of the baseline environment and how the Development will be constructed and operated using the best available technologies, in compliance with current legislation and best practice at the time of writing.

The VMNSP will be reviewed as required and updated if necessary (see Section 1.4). Information contained within this document is accurate at the time of submission, but it is recognised that changes or updates may be required to reflect changes following consultation or changes in best practice.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

The relevant conditions setting out the requirement for a VMNSP for approval, and which are to be discharged by this VMNSP, are presented in full in Appendix B (Table B3.1).

In addition to the specific consent requirements for a VMNSP and the requirements thereof (as set out in Table B3.1), this VMNSP document also includes information in respect of a number of other conditions within the offshore consents which are linked to the VMNSP; these are set out in Appendix B (Table B3.2).

1.3 Linkages with other Consent Plans

This VMNSP document sets out the vessel management measures and proposed navigational safety measures for the Development. However, ultimately it will form part of a suite of approved documents that provides the framework for the construction process and the operation of the Development – namely the other consent plans required under the Offshore Consents.

The interaction of this VMNSP with those Consent Plans specifically listed in the offshore consent conditions is detailed in Table 1.1 below.

Table 1.1 VMNSP linkage with other Consent Plans	
Other Consent Plan or Document	Linkage with VMNSP
Construction Method Statement (CMS) ²	The CMS provides details of the methods that will be implemented during the construction phase. The VMNSP has been informed by the descriptions of construction methodologies and construction vessels given in the CMS
Environmental Management Plan (EMP)	Provides details of environmental management procedures that will be employed during construction, O&M, and decommissioning of the Development.
Fisheries Management and Mitigation Strategy (FMMS)	The FMMS provide information on mitigation measures to be followed during construction and operation, including a Code of Good Practice for Contracted Vessels and Commercial Fishing Interaction Standard Operating Procedures
Lighting and Marking Plan (LMP)	Provides details of the lighting and marking to be in place during construction and O&M at the Development.
Project Environmental Monitoring Programme (PEMP)	Provides details of proposed pre-construction, construction and post-construction monitoring and reporting methods.

1.4 Document Control

This VMNSP document sets out vessel management and navigational safety measures to be applied during the construction and operation of the Development. Linkages exist between a number of offshore Consent Plans as highlighted in Table 1.1. As plans are updated, there will be a review of inter-linkages with other Consent Plans to ensure these are also updated as relevant. The document is controlled via Viewpoint For Projects, an electronic document management system.

² Submitted as a combined Construction Programme and Construction Method Statement document

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan

The Section 36 Consent recognises that updates or amendments to plans including the VMNSP may be required, stating in Annex 2 that *“The Development must, at all times, be constructed in accordance with the approved plans as updated or amended. Any updates or amendments made to the approved plans must be submitted, in writing, to the Scottish Ministers for their prior written approval”*.

Any updates or amendments made to the VMNSP by Moray West will be submitted, in writing, to the Scottish Ministers for their written approval.

Where it is necessary to update the VMNSP in light of any significant new information related to vessel use, Moray West propose to use the change management process set out in Figure 1.1 to identify such information, communicate changes to the Scottish Ministers, re-draft the VMNSP, seek further approval of amendments or updates, and disseminate the updated version of the VMNSP.

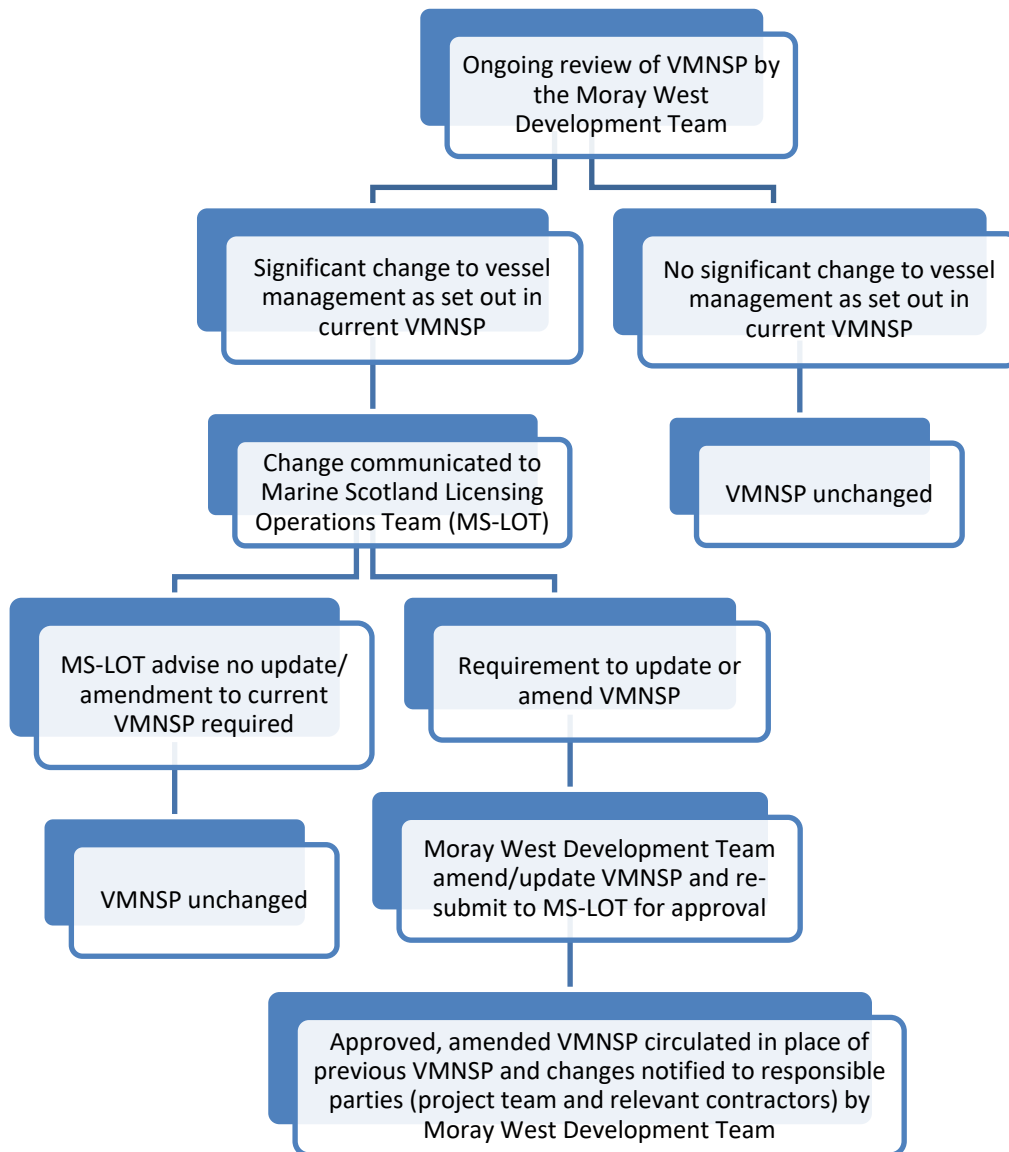


Figure 1.1: VMNSP Change Management Procedure

2 Navigational Safety Measures during Construction

The proceeding sections present the navigational safety measures that Moray West will implement during the construction phase of the Development.

Details relating to anchorage areas and the promulgation of information are set out separately in Sections 4 and 10 below.

2.1 Marine Coordination

See Section 6 for details of management and coordination.

2.2 Temporary Lighting and Marking

Marine and aviation marking, including lights, visual marks and construction buoyage will be provided in accordance with the Northern Lighthouse Board (NLB), Civil Aviation Authority (CAA), Maritime and Coastguard Agency (MCA) and Ministry of Defence (MoD) requirements.

The Moray West LMP (8460005-DBHA12-MWW-PLN-000001) sets out the precise details of the lighting and marking of the Moray West Site.

At least eight weeks prior to commencing construction of the Wind Farm Site, Moray West will complete an “Application for Statutory Sanction to Alter / Exhibit” form and submit this to the NLB for the necessary sanction to be granted. This application is required for any Aids to Navigation (AtoN) that will be in situ for more than six months. Statutory Sanction will also be sought as soon as possible prior to altering or discontinuing navigational lighting.

2.3 Radio and Radar Beacons

A radio beacon is a transmitter positioned at a fixed, known location which transmits a continuous or periodic radio signal on a specified radio frequency. A radar beacon returns a distinctive signal when triggered by radar. Both types of beacons would transmit their identification or location as a form of navigational aid. Moray West will ensure no radio or radar beacon operating in the marine frequency bands are installed or used within the Moray West Site without prior approval from the Office of Communications (OfCom).

2.4 Guard Vessels

Guard vessels may be required at the Development Site at particular times, for example when vessels are particularly vulnerable due to partially completed works or a particularly sensitive construction activity. During these periods, the construction area will be monitored by guard vessel(s) to further protect the area and to provide additional information to third-party vessels. The decision/s on when to use a guard vessel will be informed by a risk assessment of the activities.

A guard vessel may also be utilised to monitor safety zones noting this will be further assessed as part of the safety zone application (see Section 2.5).

2.5 Construction Safety Zones

Section 95 and Schedule 16 of the Energy Act 2004 set out the basic requirements for applying for a safety zone to be placed around or adjacent to an Offshore Renewable Energy Installation (OREI). The Electricity

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

(Offshore Generating Substations) (Safety Zones) (Applications Procedures and Control of Access) Regulation 2007 clarify the requirements for applications which applies to territorial waters in or adjacent to Scotland and within the Renewable Energy Zone.

It is noted as of 1st April 2017, the application process for safety zones within Scottish waters has been devolved from the Department of Business, Energy, and Industrial Strategy (BEIS) to Marine Scotland. On this basis a safety zone application will be submitted to Marine Scotland in advance of the construction phase.

It is likely that the following safety zones will be applied for during the construction phase:

- Rolling 500m safety zones around structures where construction is ongoing as indicated by the presence of a construction vessel (s).
- 50m pre commissioning safety zones around structures where construction works are not ongoing up until the point that the Development is commissioned.

The status and location of active or planned safety zones will be promulgated on a regular basis throughout the construction period as described in Section 4.

As per the guidance set out in Marine Guidance Note (MGN) 654 (MCA, 2021) in gaining approval for safety zones, Moray West will monitor the safety zones for infringements, with specific procedures to be set out in the safety zone application. Any infringement will be notified to Marine Scotland and the MCA together with supporting evidence of the infringement, for example Automatic Identification System (AIS) or visual evidence from a guard vessel.

2.6 Management of Buoyed Construction Area Including Safety Zones

Section 6 presents the methods by which Moray West vessels will be managed within the buoyed construction area including safety zones.

2.7 Cable Installation and Other RAM Operations

Restricted in Ability to Manoeuvre (RAM) vessels will be utilised during the cable installation works and heavy lifting operations. RAM vessels are those restricted in their ability to manoeuvre as a result of the nature of the work they are undertaking and therefore are restricted in their ability to avoid an approaching vessel. All RAM vessels involved in the construction of the Development will comply with the International Regulations for the Prevention of Collisions at Sea (COLREGs) (International Maritime Organization (IMO), 1972). All vessels, regardless of their nationality, are required to comply with this convention to ensure that they do not interact with vessels that are restricted in their navigational ability.

RAM vessels will display lights and shapes to indicate their restrictions. They will transmit safety warnings on Very High Frequency (VHF) to inform other vessels of their actions using the 'Securité' message if the messages contain important information relating to navigation. Communications between RAM vessels and the Marine Coordinator (MC) will be ongoing throughout the operations.

RAM vessels will comply with vessel type regulation information transmitted through AIS and show current navigational status at all times to ensure other vessels equipped with AIS can identify that they are RAM.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Cable Laying Vessels (CLVs) and any Emergency Response Rescue Vessels (ERRVs) will be equipped with AIS and an Automatic Radar Plotting Aid (ARPA).

Cable laying activities will also be promulgated through the notification procedure, and, if necessary, following internal risk assessment, guard vessels may be employed during the cable laying period.

2.8 ERCoP

As required under MGN 654 (MCA, 2021) and by condition of the S36 consent and Marine Licences, Moray West have produced an Emergency Response Cooperation Plan (ERCoP (8460005-DBHA09-MWW-PLN-000001)) for the Development in liaison with the MCA.

Moray West will also prepare an Emergency Response Plan (ERP) which details the emergency planning and response control measures to be implemented during the construction phase.

2.9 Injury, Destruction, or Decay of the Development

Moray West will notify the Licensing Authority, in writing, in the case of injury to, destruction, or decay of the Development during the construction phase. The Licensing Authority will advise of any remedial action to be taken and any AtoN to be displayed following consultation from the MCA, NLB, or any such required advisors.

3 Navigational Safety Measures during Operation and Maintenance

The proceeding sections set out the navigational safety measures to be implemented by Moray West during the O&M phase of the Development.

Details relating to anchorage areas and the promulgation of information are set out separately in Sections 4 and 10 below.

3.1 Marine Coordination

See Section 6 for details of management and coordination.

3.2 Operational Lighting and Marking

Marine and aviation marking, including lights, visual marks and construction buoyage will be provided in accordance with the NLB, CAA, MCA and MoD requirements.

The Moray West LMP (8460005-DBHA12-MWW-PLN-000001) sets out the precise details of the lighting and marking of the Moray West Site.

Prior to completion of construction, Moray West will complete an “Application for Statutory Sanction to Alter/Exhibit” form and will submit this to the NLB for the necessary sanction to be granted in relation to the operational phase Aids to Navigation. Statutory sanction will also be sought as soon as possible in advance of altering or discontinuing the construction phase Aids to Navigation.

3.3 Safety Zones during the O&M Phase

Safety zones may be applied for the O&M phase for periods when major maintenance is planned. It is expected that these safety zones would be a 500 m radius around the structure where major maintenance is occurring and, if appropriate, will be applied on a similar “rolling” basis as the construction safety zones (see Section 2.5). Such major maintenance may consist, for example, of the replacement of a Wind Turbine Generator (WTG) blade.

As per the guidance set out in MGN 654 (MCA, 2021) in gaining approval for safety zones, Moray West will monitor the safety zones for infringements, with specific procedures to be set out in the safety zone application. Any infringement will be notified to Marine Scotland and the MCA together with supporting evidence of the infringement, for example AIS or visual evidence from a guard vessel.

3.4 RAM Operations

RAM vessels may be used during cable maintenance, and heavy lift operations associated with the WTGs and OSPs, and will comply with COLREGS (IMO, 1972). These vessels will transmit safety warnings on VHF to inform other vessels of their actions, using the “Securité” message if their message contains important information relevant to navigation.

It is anticipated that any cable maintenance vessels will also be equipped with AIS and ARPA. Cable maintenance will be promulgated through the notification procedures (see Section 4) and, where necessary, guard vessels will be deployed during the cable maintenance period.

3.5 Subsea Cable Inspections

Following installation, an assessment will be completed identifying areas of cable at potential risk of exposure in the future. The monitoring programme will be developed through a risk-based approach and will be described in the Wind Farm Cable Plan and Export Cable Plan (8460005-DBHA11-MWW-PLN-000001).

Concerns noted by other users of the sea, or via the inspection process in relation to cable burial will be promulgated via the methods set out in Section 4. The MCA will be informed of any significant changes in burial depth or cable protection.

3.6 ERCoP and ERP

The approved ERCoP for the construction phase (see Section 2.8) will be updated and amended for the O&M phase, noting that the MCA required HUB template (MCA, 2019) will be used.

Moray West will also prepare a separate ERP which shall detail the required emergency planning and response control measures to be implemented across the construction and O&M phases of the Development by all Moray West personnel and contractors.

3.7 Injury, Decay, and Destruction of the Development

Moray West will notify the licensing Authority, in writing, in the case of injury to, destruction, or decay of the Development during O&M. The Licensing Authority will advise of any remedial action to be taken and any AtoN to be displayed following consultation from the MCA, NLB, and any such required advisors.

4 Promulgation of Information

This section provides information on the proposed approach to distribution and issuing Weekly Notice of Operations (WNoO), Notices to Mariners (NtM) and other appropriate notifications to the relevant stakeholders and other marine users.

4.1 Weekly Notice of Operations

During the construction phase, Moray West will issue a WNoO on a weekly basis to a list of relevant local and national stakeholders. This list will be regularly updated to ensure contact details remain up to date and all relevant parties are included. The WNoO will also be available online at <http://www.moraywest.com>.

Each WNoO will provide detailed relevant construction information which may include:

- Ongoing activities including status;
- Planned activities for the upcoming week;
- Completed activities;
- Status of structures (e.g., installed, partially installed);
- Status of AtoNs;
- Vessels currently on site;
- Additional vessels anticipated to arrive on site (if applicable);
- Details of safety zones (if applicable);
- Relevant project contact details (including the MC and CFLO); and
- Any use of guard vessels (if applicable).

4.2 Local Notices to Mariners

In addition to the WNoO (see Section 4.1), Local Notices to Mariners (LNtM) will be issued in advance of any activity / hazard associated with the Development which may impact upon navigational safety and are relevant for all vessels, not just those on the WNoO circulation list. The LNtM will be concise, detailing the relevant navigational safety information and may include, but not be limited to, the information set out in Table 4.1. A standard template will be defined to ensure the notifications are succinct.

Moray West will issue LNtM to a list of relevant local and national stakeholders. This list will be regularly updated to ensure contact details remain up to date and all relevant parties are included.

Table 4.1: Content of LNtM

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 organization 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 (coordinates); Vessels on site including call signs;

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	Activity being undertaken; and Specific risk to navigation.
Contact Details	Sufficient details to allow mariners to contact the organization issuing the LNTM including the Marine Coordinator (MC) / 24-hour emergency contact and the CFLO
Guard Vessel and Safety Zone Details	Details of any guard vessels or safety zones present and in force.
Hyperlinks to Additional Information	Provided only if absolutely necessary.

Among the organisations that the LNTM will be issued to is the UKHO. Upon receipt of any LNTM, the UKHO will decide whether to include information in their Weekly Admiralty NtM, as described in Section 4.3.

4.2.1 LNTM Issued Prior to the Commencement of Construction

Moray West will, as soon as reasonably practicable prior to the Commencement of any construction activities, ensure that local mariners, fishermen's organisations, and Her Majesty's Coastguard (HMCG), in this case the National Maritime Coastguard Centre (NMCC) and Shetland Maritime Rescue Coordination Centre (MRCC), are made fully aware of the Licensable Marine Activity through LNTM (and / or any other appropriate means e.g., WNoO).

It is noted that, as per CAA requirements, Moray West also arranged a Notice to Airmen (NOTAM) with the CAA prior to the start of construction. Full details of promulgation of information relevant to aviation are given in the Moray West LMP (8460005-DBHA12-MWW-PLN-000001).

4.2.2 LNTM during Construction

The Marine Coordinator (MC) will notify the UKHO and the standard list of stakeholders in advance of any notifiable activities include anything that may pose a risk to navigational safety, (e.g., any fault to navigational aids). It is also a requirement under the ERCoP to ensure the MCA are aware of what vessels are on site (and how to contact them). A template approved by the MCA to satisfy this will be held by the MC.

General updates will be provided on an ongoing basis via the WNoO (see Section 4.1).

4.2.3 LNTM upon Commissioning and during O&M

Moray West will ensure that local mariners, fishermen's organisations, and both the Shetland MRCC and the NMCC are made fully aware of the completion of the construction works and the commissioning of the Development. The UKHO will be made aware of the Completion of the Works to facilitate the promulgation of maritime safety and updating of charts.

Moray West will ensure that relevant stakeholders are informed via LNTM of any planned and unplanned maintenance activities that are outside the day-to-day maintenance activities associated with the Development.

It should be noted that the Offshore Transmission Owner (OFTO) will be responsible for LNTMs associated with the OfTI assets once they have been transferred to the OFTO following commissioning as required by the prevailing regulatory regime.

4.2.4 Post Commissioning

Moray West will, upon completion of the Development, provide the 'as built' positions and maximum heights of all the WTGs, OSPs, and any subsea infrastructure to the UKHO for aviation and nautical charting purposes (see Section 4.4).

4.3 Admiralty Notices to Mariners (UKHO)

Admiralty NtMs are issued to the UKHO and are based on the information provided within LNTM. The UKHO issues these on a weekly basis to provide physical corrections to charts and associated publications. It is the responsibility of mariners to look up the Weekly Editions of Admiralty NtM which can be found on the UKHO website and to make necessary corrections to the charts on board their vessel.

4.4 UK Nautical and Aviation Charts

The precise locations and maximum heights of all WTGs and construction equipment over 150 m above LAT, and the details of any fixed lighting fitted to all WTGs, will be provided to the UKHO for nautical charting.

WTGs will be charted by the UKHO using the WTG tower or development area chart symbol (as presented in *Symbols and Abbreviations used on ADMIRALTY Paper Charts NP5011* (UKHO, 2020)) on charts deemed appropriate in terms of scale.

Similarly, the UKHO will display the submarine cables associated with the Development on charts deemed appropriately scaled.

Moray West will, within one month of the final Completion of the Works, provide the coordinates accurate to three decimal places of minutes of arc for each WTG / OSP position and maximum heights of the WTG / OSP to UKHO and Defence Geographic Centre (DGC) for nautical and aviation charting purposes. Reporting requirements to the CAA and DGC for aviation purposes are set out in further detail within the Moray West LMP (8460005-DBHA12-MWW-PLN-000001).

The MoD will be notified of the following in writing at least 14 days prior to the Commencement of the Works:

- the earliest date of the Commencement of the Works;
- the earliest date any WTGs are brought into use;
- the maximum height of any construction equipment 50 m or greater in height above mean sea level, to be used; and
- the maximum heights of any WTG, offshore platforms or other, temporary or permanent, offshore structures 50 m or greater in height, above mean sea level, to be deployed or constructed.

4.5 Kingfisher Bulletins and KIS-ORCA

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

Notification to the Kingfisher bulletin may include, for example, an overview of the Development, 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, and any relevant drawings or other development information.

The following sections detail the KIS-ORCA notifications that will be promulgated for each phase of the Development.

4.5.1 Notifications prior to the Commencement of Construction

Moray West will ensure that details of the Development are promulgated in the Kingfisher bulletins, as soon as reasonably practicable prior to the Commencement of construction of the Development, to inform the fishing industry of vessels routes, timing and locations of construction works, and relevant details of the construction works.

4.5.2 Notifications during Construction

Moray West, through the MC, will ensure that the progress of construction of the Development is promulgated in the Kingfisher bulletin (in addition to the WNoO as per Section 4.1) to inform the commercial fishing industry of the vessel routes, and timings and locations, and relevant details of the construction activities.

Notifications to Kingfisher bulletin online may include, for example, an overview of the Development, roles and responsibilities, method statements relevant to the scope of the work for which the notification is issued, offshore activity schedule, navigational safety procedures, safety zones, advisory safe passing distances and any relevant drawings or other Development information.

4.5.3 Notifications upon Commissioning and during O&M

Moray West will ensure that the completion of the construction works is promulgated to the Kingfisher bulletin to inform the commercial fishing industry.

Moray West will ensure notices are issued to the Kingfisher bulletin detailing any planned or unplanned maintenance activities that are outside the day-to-day maintenance carried out at the Development.

The OFTO will be responsible for KIS-ORCA notifications associated with the OfTI assets once they have been transferred to the OFTO following commissioning.

4.6 Radio Navigational Warnings

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:

- Failures to light signals, fog signals, buoys, or other AtoN;

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

- 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; and/or
- Vessels not under command or undertaking significant RAM operations.

Once details of an activity have been issued through the standard NtM 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.

In the context of radio navigational warnings, the UKHO act as the Navigation Area (NAVAREA) 1 (NEW 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 the warnings and is the organisation responsible for charging levies to broadcast them.

For information the broadcasts are under the control of the UKHO but are typically made up of the following:

- 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 four hours), or upon receipt of the information if it is of a vital nature; and
- Broadcast by VHF or Medium Frequency (MF) radio selected MCA stations at the next scheduled broadcast and every 12 hours thereafter.

As per the Moray West LMP (8460005-DBHA12-MWW-PLN-000001), AIS will either be installed on WTG B01, or a synthetic AIS may be used. AIS will also be installed on the south cardinal buoy during the construction phase. Moray West will seek relevant licences from the OfCom in advance of the use of any AIS.

4.7 UK Marine Reporting Requirements

In addition, within UK waters, all vessels are required to report all incidents 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.

Information required shall include:

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

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

4.8 Other Notifications

Moray West will consult local harbour Masters, where appropriate, who may wish to issue local warnings to those navigating in the vicinity of the Moray West Site.

Moray West will promulgate targeted information to local fishing and recreational sailing clubs as well as local ports and harbours (including via the WNoO).

The location of all WTGs, OSPs and cables will be made available for inclusion in the Clyde Cruising Club Sailing Directions and Anchorages, as per the commitment made in the Moray West EIA Report.

5 Location of Working Ports

Precise ports to be used during the construction phase are not yet determined. The following ports (in some cases referred to as Intermediate Delivery Ports (IDPs)) are under consideration for use:

- Wallsend (OSP topside fabrication);
- Nigg Energy Park (IDP for pre-assembly and lay down of components including but not limited to WTGs and potentially also monopile foundations, transition pieces and OSPs for installation in the Moray West Site);
- Buckie (mobilisation (potentially including a DSV for the export cable works) and where the marine base will be located).

The subsea inter-array, OSP interconnector and export cables are expected to be transported directly to the Development through the Outer Moray Firth originating from the east coast of the UK, USA or Scandinavia.

The following sections provide an overview of the key facilities available at these ports. Should any ports be identified as being required for the construction phase that are not described below, an updated version of this VMNSP will be submitted to MS-LOT in advance of those ports being used in connection with the construction of the Development.

5.1 Construction Ports

5.1.1 Wallsend

The OSP topsides are expected to be delivered to the IDP from the fabrication yard at Wallsend, UK before being delivered to the Moray West Site on a cargo barge. There is also the option to deliver the OSP topsides straight from the fabrication yard to the site, should operations and weather allow.

5.1.2 Nigg Energy Park

Nigg Energy Park is located in the Cromarty Firth and is the largest port facility in the Moray Firth region. The port provides a range of loading facilities with extensive laydown areas and large construction and assembly yards, offering direct access to the Moray Firth. The sheltered, deep water access allows facilities to be operational 365 days a year.

5.1.3 Buckie

Buckie Harbour is located on the south coast of the Moray Firth and is primarily a commercial port with four basins. It has previously supported activity associated with the renewables industry. In addition to accommodating a fishing fleet, the port can support two coasters. Facilities are present for the repair and servicing of vessels, and pilotage is available but is not compulsory.

5.2 Operation and Maintenance Ports

Buckie Harbour (see above) is expected to be used during the O&M phase as the Moray West O&M base. A permanent O&M base building will be constructed at the harbour and is expected to be accompanied by refueling facilities and berth(s) or pontoon(s) for use by Moray West CTVs.

5.3 Other Port Options

In addition to the ports detailed above, other ports may be used during the construction and operational phases. These ports are likely to be on the east coast of Scotland. Smaller vessels such as but not limited to CTVs, guard vessels and small workboats that will travel to and from the Development more frequently may potentially use local ports and harbours within the Moray Firth and along the east coast of Scotland.

6 Management and Coordination of Vessels

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

- A Marine Coordinator (MC) 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 constantly 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 the Development to plan the work being undertaken;
- The MC will be the central contact point for contractors in case of an emergency. They will maintain a copy of the Moray West ERCoP; and
- The MC will issue NtMs received from contractors after being reviewed and approved by Moray West.

All marine operations and vessel movements will be planned giving due regard to the requirements of the VMNSP.

Bunkering may be required during the construction phase. Details will be provided as part of the monthly ECoW reporting, as per the template provided within the Moray West Marine Pollution Contingency Plan (MPCP) (8460005-DBHA06-MWW-PLN-000002) within the Environmental Management Plan (EMP) (8460005-DBHA06-MWW-PLN-000001).

During operation, similar provisions for vessel coordination will be established with marine coordination via the MC throughout the operational phase. Further information on marine coordination during the operational phase will be provided, for approval, in the Operation & Maintenance Programme (OMP). It is currently expected that the following measures of relevance to management and coordination of vessels will be in place:

- A Marine Coordinator (MC) will be responsible for managing operation and maintenance vessel activities;
- Permission for operation and maintenance vessels to enter the Development and any 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 constantly 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;

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

- The MC will define safety zones, no-go locations etc.
- The MC will obtain and provide localised weather information for vessels working on the Development to plan the work being undertaken;
- The MC will be the central contact point for contractors in case of an emergency. They will maintain a copy of the Moray West ERCoP; and
- The MC will issue NtMs received from contractors after being reviewed and approved by Moray West.

7 Types and Specification of Vessels

This section outlines the types and specifications of vessels to be utilised during the construction phase (Section 7.2) and O&M phase (Section 7.11), where known specific vessels are presented, in other cases indicative vessels are presented. Where indicative vessel specifications are presented, these may vary depending on market availability. The requirements under the Offshore Consents to notify the Scottish Ministers/Licensing Authority of the final vessel list prior to the Commencement of construction or operation works is noted in this regard.

7.1 Standards and Requirements

Vessel crews will be required to meet recognized standard and comply with the international maritime rules (as adopted by the relevant flag state) and regulations for their class and area of operation. Moray West 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).

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

All vessels involved in the construction of the Development will be marked in accordance with the International Regulations for Preventing Collisions at Sea, 1972. Offshore platforms, and jack up vessels when jacked up, will be marked in accordance with the *UK Standard Marking Schedule for Offshore Installations* (Department of Energy & Climate Change (DECC), 2011). All construction vessels will be equipped with AIS receivers and transmitters.

Moray West will require that all construction vessels comply with the procedures and requirements set out in this VMNSP as well as other relevant Consent Plans such as (but not limited to) the Moray West EMP (8460005-DBHA06-MWW-PLN-000001) and the Moray West LMP (8460005-DBHA12-MWW-PLN-000001).

7.2 Construction Phase

The following sections present examples of the vessel types that are likely to be used during the construction works. Precise vessels to be used are not currently known, however indicative specifications are given based on the information available at the time. Any vessel names quoted are to be considered indicative only, are provided for the purposes of illustrating a typical vessel of that type and should not be interpreted as a commitment that vessel will be used.

The confirmed individual vessel details will be notified to the Scottish Ministers in writing no later than 14 days prior to the Commencement of the Development, and thereafter, any changes to the details supplied will be notified to the Scottish Ministers, as soon as practicable, prior to any such change being implemented in the construction or operation of the Development.

Moray West will ensure that for any vessel appointed to engage in the works, the following details are available (where applicable) in the Vessel Report at least five days prior to its engagement in the construction phase of the Development, which will be made available on the Moray West webpage³:

³ Moray Offshore Windfarm (West) Limited webpage: <http://www.moraywest.com>

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

- Vessel name;
- Vessel function;
- Master's name;
- Vessel type;
- IMO Number; and
- Vessel owner or operating company.

7.3 Seabed Preparation

Prior to the commencement of construction of the Development, a series of seabed preparatory works will be carried out to facilitate the successful installation of the construction components, including cabling works and monopile foundations. These works are expected to involve, but may not be limited to:

- Boulder and Debris Clearance; and
- Unexploded Ordinance (UXO) Survey and Clearance (note that this is subject to a separate Marine Licence).

7.3.1 Boulder Clearance Vessel

It is likely that a DP II Class Construction Support Vessel with the following will be used:

- A Remotely Operated Underwater Vehicle (ROV) for surveys;
- A boulder grab to relocate boulders nearby out with the cable routes.

Various vessels are under consideration for this task, but indicative information is provided in Table 7.1.

Table 7.1: Boulder Clearance Vessel Key Details

Vessel Type	DP II Class Construction Support Vessel
Vessel Role	Survey, Boulder Displacement and Relocation
Vessel Key Characteristics	Length: approx. 95 m Breadth: approx. 20 m Draught: approx. 7 m
Propulsion	Twin Azimuth thrusters

Should a boulder plough be used then an Anchor Handling Vessel with DP Class II and 150Te of bollard pull may be used instead.

Boulder clearance works will be covered under a separate Marine Licence, if required.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

7.3.2 UXO Survey and Clearance Vessels

The requirements for UXO clearance fall under a separate Marine Licence; however, an overview of the vessels is provided here for information only. A survey will be carried out to identify UXO targets on the seabed. Where potential UXO items cannot be avoided, they will be individually inspected by ROV and, if confirmed to be a UXO, will be removed or disposed.

Table 7.2: UXO Survey and Disposal Vessel Key Details

Vessel Type	Offshore Support Vessel
Vessel Role	UXO Survey, Inspection and Disposal
Vessel Key Characteristics	Based upon indicative vessel <i>Smit Kamara</i> - Length: approx. 70.9 m - Breadth: approx. 16 m - Draught: approx. 5.7 m
Propulsion	2 x 2,460 kW Wärtsilä 6R32
Mooring / station keeping	Dynamic Positioning

Table 7.3: UXO Survey and Disposal Support Vessel Key Details

Vessel Type	Survey Vessel
Vessel Role	UXO Survey and Disposal Support Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>Titan Endeavour/Titan Discovery</i> - Length: approx. 14 m - Breadth: approx. 5 m - Draught: approx. 1.5 m Based upon indicative vessel <i>Ocean Researcher</i> - Length: approx. 69.4 m - Breadth: approx. 14.4 m - Draught: approx. 4.9 m
Propulsion	Based upon indicative vessel <i>Titan Endeavour/Titan Discovery</i> - Twin 450hp IVECO diesel engines 2x marinized diesel 6kW Lombardini generator Based upon indicative vessel <i>Ocean Researcher</i> - Mirrlees Blackstone MB275
Mooring / station keeping	Based upon indicative vessel <i>Ocean Researcher</i> Dynamic Positioning

7.4 Pile Foundation and Support Structure Installation

7.4.1 Fall Pipe Vessel

The scour protection material will likely be transported to the Moray West Site from a quarry in northern Europe. The material will be delivered on-board of a fall pipe vessel (FPV). Indicative specification for the fall pipe vessel is presented in Table 7.4 below.

Table 7.4: Fall Pipe Vessel Key Details

Vessel Type	Fall Pipe Vessel
Vessel Role	Transportation and Deployment of Scour Protection
Vessel Key Characteristics	Based upon indicative vessel <i>Rockpiper</i> - Length: approx. 158 m - Breadth: approx. 36 m - Draught: approx. 13 m
Propulsion	Main Engines 3 x 4,500 kW Main Propellers 2 x 4,500 kW Azimuth Thrusters 2 x 1,500 kW
Mooring / station keeping	Dynamic Positioning

7.4.2 Pile Foundation and Transition Piece Delivery Vessels

The foundation monopiles and transition pieces will likely be transported to an IDP at Nigg.

The monopiles and transition pieces are expected to be transported by Heavy Transport Vessels and/or by barges towed by ocean-going tugs.

Table 7.5: Pile Foundation Delivery Heavy Lift Vessel Key Details

Vessel Type	Heavy Transport Vessel
Vessel Role	Pile Foundation/Transition Piece Delivery Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>White Marlin/Black Marlin</i> - Length: approx. 217 m - Breadth: approx. 42/68 m - Draught: approx. 13 m
Propulsion	Based upon indicative vessel <i>White Marlin</i> - Main propulsion 2 x 5,250 kW - Azimuth thrusters 1 x 8,700 kW - Bow thruster 2 x 1,200 kW Based upon indicative vessel <i>Black Marlin</i> - Main propulsion 1 x 12,640 kW C.P. propeller

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	Bow thruster 2,000 kW
Mooring / station keeping	Dynamic Positioning

Table 7.6: Pile Foundation Delivery Tug and Barge Key Details

Vessel Type	Tug and Barge
Vessel Role	Pile Foundation/Transition Piece Delivery Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>Smit Nicobar</i> - Length: approx. 80 m - Breadth: approx. 16 m - Draught: approx. 6 m Based upon standard barge - Length: approx. 122 m - Breadth: approx. 37 m - Draught: approx. 8 m
Propulsion	Based upon indicative vessel <i>Smit Nicobar</i> - Bow thruster 2 x 550 kW - Stern thruster 1 x 550 kW Barge is towed and therefore no propulsion
Mooring / station keeping	Dynamic Positioning

7.4.3 Pile Foundation and Transition Piece Installation Vessels

The foundation installation contractor will load up the components at the IDP using one or more suitable vessels, which may be either jack-up vessel(s) (JUV) and/or heavy lift vessel(s) (HLV).

Table 7.7: Pile Foundation/Transition Piece Installation Heavy Lift Vessel Key Details

Vessel Type	Heavy Lift Vessel
Vessel Role	Pile Foundation/Transition Piece Installation Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>Orion</i> - Length: approx. 216 m - Breadth: approx. 49 m - Draught: approx. 17 m Based upon indicative vessel <i>Bokalift 1</i> - Length: approx. 216 m - Breadth: approx. 43 m - Draught: approx. 13 m

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Propulsion	Based upon indicative vessel <i>Orion</i> • 4 x 4,500 kW Azimuth Thrusters • 2 x 4,200 kW Retractable Thrusters • 2 x 2,500 kW Tunnel Thrusters Based upon indicative vessel <i>Bokalift 1</i> • Main Engines 4 x 3,840 kW, 2 x 4,800 kW • Main sailing 2 x 5,250 kW • Retractable 4 x 3,500 kW • Bow thrusters 2 x 1,200 kW
Mooring / station keeping	Dynamic Positioning

Table 7.8: Pile Foundation/Transition Piece Installation JUV Key Details

Vessel Type	JUV
Vessel Role	Pile Foundation/Transition Piece Installation Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>Apollo</i> • Length: approx. 87 m • Breadth: approx. 42 m • Draught: approx. 8 m
Propulsion	Based upon indicative vessel <i>Apollo</i> • 4 x 2,555 kW Azimuth Thrusters
Mooring / station keeping	• Dynamic Positioning • Jacking Up Position (84.2m leg length extendable to 106.8m)

7.5 Offshore Substation Platform Topsides Installation

The OSP topsides are expected to be delivered to an IDP from the fabrication yard at Wallsend, UK before being delivered to the Moray West site on a cargo barge. There is also the option to deliver the OSP topsides straight from the fabrication yard to the site, should operations and weather allow. The OSP topsides are then expected to be installed by a Heavy Lift Vessel (HLV) . Installation of the OSP topsides is expected to be done using the same HLV/JUV used for installing the foundations. Please refer to the HLV/JUV vessel specifications provided in Section 7.4 above. The specifications for a tug and barge are expected to be similar to those described above for pile foundation and transition piece transport.

7.6 Inter-Array and OSP Inter-connector Cable Installation

The IAC and OSP inter-connector cables are expected to be loaded onto the cable lay vessel (CLV) at either the port of cable manufacture or transported from the cable manufacturing facility to an interim marshalling port in the UK for load-out to the CLV. Prior to the cables being installed, pre-lay survey, debris

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

and boulder clearance works and pre-lay grapnel runs will be undertaken. The survey and boulder clearance vessels expected to be involved in these seabed preparation works are described in Section 7.3 above and are not repeated here.

7.6.1 Pre-Lay Grapnel Run Vessel

The PLGR involves dragging a grapnel or hook along the seabed of the cable route. This clears away any debris which may hinder cable installation and trenching.

Table 7.9: PLGV Vessel Key Details

Vessel Type	PLGR – Anchor Handling Vessel
Vessel Role	Route Clearance with Grapnel / Hook Train on Seabed
Vessel Key Characteristics	Based upon indicative vessel <i>Voe Vanguard</i> - Length: approx. 33 m - Breadth: approx. 15 m - Draught: approx. 3 m Based upon indicative vessel <i>Moonrise G</i> - Length: approx. 59.9 m - Breadth: approx. 16.5 m - Draught: approx. 5.4 m
Propulsion	Twin Azimuth thrusters 2 x fixed propulsion propellers CPP Propellor Tunnel thruster
Mooring / station keeping	Dynamic Positioning

7.6.2 Cable Installation Vessels

Cable installation is expected to be undertaken by a CLV which will have been pre-loaded with the subsea cable lengths and stored on the vessels cable carousels. The installation of the inter-array and OSP inter-connector cables is expected to be completed on a string by string basis. The installation support vessel will work ahead of the CLV, and the pull-in teams will set up the pull-in equipment and prepare each structure for cable installation. Each team will be transferred to the asset using the walk-to-work (W2W) system or by CTVs.

Table 7.10: Cable Lay Vessel Key Details

Vessel Type	CLV
Vessel Role	Inter-array and OSP Interconnector Cable Lay
Vessel Key Characteristics	Based on indicative vessel <i>Seaway Aimery</i> Length: approx. 95 m

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	- Breadth: approx. 21 m - Draught: approx. 7 m
Propulsion	Based on indicative vessel <i>Seaway Aimery</i> - Twin Azimuth propellers - Twin Tunnel Thrusters - Retractable Azimuth Thrusters
Mooring / station keeping	Dynamic Positioning

Table 7.11: Installation Support Vessel Key Details

Vessel Type	ISV
Vessel Role	Survey, Foundation Preparation, Personnel and Equipment Transfer
Vessel Key Characteristics	Based on indicative vessel <i>Seaway Moxie</i> - Length: approx. 74 m - Breadth: approx. 17 m - Draught: approx. 6 m
Propulsion	Based on indicative vessel <i>Seaway Moxie</i> - Twin Tunnel Thrusters - Retractable Azimuth Thrusters
Mooring / station keeping	Dynamic Positioning

7.6.3 Post-Lay Trenching Vessels

Once cables are installed on the seabed, cable burial will be carried out using a jet-trencher or mechanical trencher as described in the Wind Farm Cable Plan and Export Cable Plan (8460005-DBHA11-MWW-PLN-000001).

Table 7.12: Trenching Support Vessel Key Details

Vessel Type	TSV
Vessel Role	Cable Burial and Survey
Vessel Key Characteristics	Based on indicative vessel <i>Siem Barracuda</i> - Length: approx. 120 m - Breadth: approx. 22 m - Draught: approx. 6 m
Propulsion	Based on indicative vessel <i>Seaway Moxie</i> Twin Azimuth Thrusters
Mooring / station keeping	Dynamic Positioning

7.6.4 Post-Lay Survey and Fall Pipe Protection Vessels

Following cable burial, a post-trench survey of the cables will be completed to determine the Depth of Lowering (DoL). Where the target DoL has not been reached additional cable protection measures may be required which will be as described in the Wind Farm Cable Plan and Export Cable Plan (8460005-DBHA11-MWW-PLN-000001).

Table 7.13: Post-Lay Cable Survey Vessel Key Details

Vessel Type	Survey Vessel
Vessel Role	Post-Lay Cable Survey
Vessel Key Characteristics	Based on indicative vessel <i>Geo Ocean IV</i> - Length: approx. 42 m - Breadth: approx. 9 m - Draught: approx. 5 m
Propulsion	Based on indicative vessel <i>Geo Ocean IV</i> CP propellor
Mooring / station keeping	Dynamic Positioning

Table 7.14: Rock Protection Installation Vessel Key Details

Vessel Type	FPV
Vessel Role	Rock Dump Installation
Vessel Key Characteristics	Based on indicative vessel <i>Bravenes</i> - Length: approx. 154 m - Breadth: approx. 28 m - Draught: approx. 8 m
Propulsion	Based on indicative vessel <i>Bravenes</i> 2x bow thrusters 2x retractable thrusters
Mooring / station keeping	Dynamic Positioning

7.7 Wind Turbine Generator Installation

The various components that make up the WTG shall be delivered from their port of origin to the selected IDP for assembly before being transported to the Moray West Site as required.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

The prepared WTG components will then be loaded onto a JUV for transportation to the Moray West Site for installation. This vessel is likely to be similar to the one that may be used to install the foundation transition pieces and OSP topsides (see Section 7.4).

7.7.1.1 Cargo Vessels

The transport and delivery of WTG components to the IDP will be undertaken by cargo vessels.

Table 7.15: Cargo Vessel Key Details

Vessel Type	Deck Cargo Ship
Vessel Role	Transport and delivery of WTG components
Vessel Key Characteristics	Length: approx. 145 m Breadth: approx. 30 m Draught: approx. 5 m Transit speed: approx. +10 knots
Propulsion	Propeller

7.7.1.2 Wind Turbine Generator Installation Vessel

It is expected that the WTGs will be transported from the IDP to the Moray West Site and then be installed by a JUV.

Table 7.16: WTG Installation JUV Key Details

Vessel Type	JUV
Vessel Role	WTG Installation Vessel
Vessel Key Characteristics	Based upon indicative vessel <i>Wind Osprey/Wind Orca</i> - Length: approx. 170 m - Breadth: approx. 49 m - Draught: approx. 6 m
Propulsion	Based upon indicative vessel <i>Wind Osprey/Wind Orca</i> 4 x 3,400 kW Azi-pod stern thrusters 2 x 2,200 kW Bow retractable Azimuth thrusters 2 x 2,200 kW Bow tunnel thrusters
Mooring / station keeping	- Dynamic Positioning - Jacking Up Position (105m leg length extendable to 80m below the hull)

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

7.7.1.3 Mechanical and Electrical Completion and Commissioning Vessels

A SOV and/or JUV may be used by the WTG contractor for the support of the offshore operations as well as deployment and retention of the personnel carrying out the installation, hookup and commissioning activities.

Table 7.17: M&E Completion and Commissioning SOV Key Details

Vessel Type	SOV (50-75 passengers)
Vessel Role	Personnel Transfer for Mechanical and Electrical (M&E) completion
Vessel Key Characteristics	Length: approx. 100 m Breadth: approx. 20 m Draught: approx. 7 m (max) Transit Speed: 10 knots
Propulsion	Most likely azipods
Mooring / station keeping	Dynamic Positioning

If used, the JUV is likely to be the same vessel as used for WTG installation described above.

CTVs will be used to transfer personnel as well as for Mechanical and Electrical (M&E) completion. The CTV is likely to be similar to that described in Section 7.9.3).

7.8 Offshore Export Cable Installation

The key vessel types involved in the offshore export cable installation are likely to be very similar to those described above for the inter-array and OSP connector cable installation and therefore (with the exception of the offshore export cable lay vessel) they are not repeated here; please refer to Section 7.6. In addition, a dive support vessel may be used nearshore to support Horizontal Direction Drilling (HDD) activities.

Table 7.18: Cable Lay Vessel Key Details

Vessel Type	CLV
Vessel Role	Offshore Export Cable Lay
Vessel Key Characteristics	Based on indicative vessel <i>Nexans Skagerrak</i> • Length: approx. 118 m • Breadth: approx. 32 m • Draught: approx. 5 m
Propulsion	Based on indicative vessel <i>Nexans Skagerrak</i> • 2 x Stern Twin Azimuth Thrusters • 2 x Bow Retractable Azimuth Thrusters
Mooring / station keeping	Dynamic Positioning

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table 7.19: Diving Support Vessel Key Details

Vessel Type	Dive Support Vessel Anchored at HDD Exit Point
Vessel Role	Diving Support Marine Operations for HDD Works and Cable Installation
Vessel Key Characteristics	Length: approx. 26 m Breadth: approx. 10 m Draught: approx. 2.5 m
Propulsion	2 x fixed Pitch Propellers

7.9 Construction Support Vessels

A range of smaller support vessels may be used including anchor handling tugs/general work boats, tender boats, CTV and SOV.

7.9.1 Tug/Work Boats

Tug/work boat(s) will likely be used for towing and tasks such as control of the ducts associated with the HDD works during pullback as well as crew transfer, anchor handling and surveying.

Table 7.20: Tug/Work Boat Key Details

Vessel Type	Tug/Work boat
Vessel Role	Tow and Subsequent Control of the Duct during Pullback, Crew Transfers, Anchor Handling and Surveying
Vessel Key Characteristics	Length: approx. 15 m Breadth: approx. 5 m Draught: approx. 2 m

7.9.2 Small Tender Boats

Small tender boats may be used to manage the ducts associated with the HDD works during towing and pullback as well as crew transfer, anchor handling and surveying.

Table 7.21: Small Tender Boat/Work Boat Key Details

Vessel Type	Small Tender Boat/Work Boat
Vessel Role	To Manage the Duct during Tow and Pullback, Crew Transfers, Anchor Handling and Surveying
Vessel Key Characteristics	Unknown

7.9.3 Crew Transfer Vessels

Multiple CTVs will be used to transport personnel and cargo between ports and the Moray West Site, and within the site.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table 7.22: CTV Key Details

Vessel Type	CTV
Vessel Role	Personnel and cargo transport
Vessel Key Characteristics	Variable. Anticipated to be up to approximately 30 m LOA with twin fixed pitch propellers

7.9.4 Hookup and Commissioning Support Vessel

SOVs may be involved in commissioning support for the WTGs and OSPs. These works may also include a JUV and/or a W2W vessel.

Table 7.23: Service Operation Vessel Key Details

Vessel Type	Service Operation Vessel
Vessel Role	Support for WTG and OSP hookup and commissioning
Vessel Key Characteristics	Anticipated to be up to approximately 60 m LOA with W2W capability. Equipped with Dynamic Positioning

Table 7.24: Commissioning Support JUV Key Details

Vessel Type	JUV
Vessel Role	Support for OSP hookup and commissioning
Vessel Key Characteristics	Anticipated to be up to approximately 70 m LOA

7.10 Guard Vessels

It is anticipated that guard vessels will be used to monitor the buoyed construction area, the export cable route installation and safety zones around structures, during certain stages of the construction phase. These vessels will be of a relevant class to work within the Development.

The number of guard vessels and their work class is expected to vary throughout construction depending upon the location and type of construction activities underway.

7.11 Operational Phase

Similar vessels are likely to be required, at various times, to those described for construction in Sections 7.2 to 7.10. These vessel types may include (though not limited to):

- SOVs (see Section 7.9.4 for indicative vessels);
- CTVs (see Section 7.9.3 for indicative vessels);

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

- JUV (see Section 7.9.4 for indicative vessels); and
- Survey vessels (see Sections 7.3.2 and 7.6.4 for indicative vessels).

8 Numbers and Movements of Vessels

8.1 Construction Vessels

The number of on site vessels associated with the Development at any one time will vary during the construction period, with peaks in vessel activity reflecting the timing of major installation works.

For each vessel type anticipated to be entering into the Moray West Site, Table 8.1 presents the indicative number of vessels involved in construction, the main construction activities they will be involved in, and the anticipated total number of return journeys (a transit to the Moray West Site and then back to port) they will make (where such information is available). It should be noted that the number of transits given is a best estimate based on the available information at the time of writing, and the actual numbers may differ during the construction phase.

It is noted that in addition to the vessels listed, dedicated guard vessels may be employed during certain stages of construction (see Section 7.10).

Table 8.1: Construction Vessel Activities Summary

Table 8.1 Construction Vessel Activities Summary			
Vessel Type	Anticipated Total Number	Key Construction Activities	Approximate Total Number of Return Journeys to Port
Foundation, Jacket and OSP Topside Installation			
Transport Barge	4	Transport of Monopile foundations from Fabrication yard to the IDP, OSP Topsides from Fabrication yard to the Moray West Site, and potentially J-Tube Cages from the IDP / Fabrication yard to Moray West Site.	2-10
Tug	4	Towing of Transport Barges	2-10
JUV	1	WTG Transition Piece installation	20-30
HLV	2	WTG and OSP Monopile Foundation Installation and OSP Topside installation	30-40
Fall Pipe Vessel	1	Transport and Deployment of Scour Protection	3
Inter-Array and OSP Interconnector Cable Installation			
Boulder Clearance Vessel	1	Survey, Boulder Displacement and Relocation	4

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

PLGR	1	Route Clearance with Grapnel / Hook Train on Seabed	2
Inter-array CLV	1	Inter-array Cable Lay	5
Inter-array ISV	1	Survey, Personnel and Equipment Transfer	10
TSV	1	Cable Burial and Survey	5
OSV	1	Personnel and Equipment Transfer	5
CTV(s)	1 or more	Personnel Transfer	10 to 30
RPV	1	Rock Dump Installation with Fall Pipe Vessel	4
Post Trench Survey	1	As-built survey of IACs	2
WTG Installation			
JUV	1	WTGs installation	30
CTV(s)	3	Personnel Transfer	120
Export Cable Installation			
CLV	1	Export Cable Lay	4 or 8 if combined with TSV
TSV	1	Export Cable Installation	4 (if separate vessel used)
Multi-Cat Vessel	1	Support Marine Operations for HDD Works and Export Cable Installation	60+
PLGR	1	Route Clearance with Grapnel / Hook Train on Seabed	2
Tug / Work Boat	1	Tow and Subsequent Control of the Duct during Pullback, Crew Transfers, Anchor Handling and Surveying	10 (if used)
Small Tender Boat(s)	Up to 2	Manage the Duct during Tow and Pullback, Crew Transfers, Anchor Handling and Surveying	10 (if used)
FPV	1	Rock Dump Installation with Fall Pipe Vessel	4
Pre-Lay Survey	1	OEC Pre-Lay Survey	2

8.2 O&M Vessels

The number of vessels within the Moray West Site during the O&M phase at any one time will vary, with peaks in vessel activity reflecting the timing of major maintenance works.

For each vessel type predicted to be entering the Development, Table 8.2 below presents the indicative number of annual vessel trips to port as well as the main O&M activities they will be involved in. It should be noted that the number of trips to port given is a best estimate based on the available information at the time of writing, and that the actual numbers may differ during the O&M phase. In the case of activities that are unscheduled (e.g. UXO survey and main components exchange) the trips to port per year quoted are reasonable worst case scenario estimates however should be considered as averages (i.e. there may be several years with no trips and then one year with several trips).

It is noted that in addition to the vessels listed, dedicated guard vessels may be employed during certain periods (see Section 7.10).

Table 8.2: Operational Activities Summary

Table 8.2 Operational Activities Summary		
Key O&M Activities	Vessels Required	Trips to Port (per year)
WTGs O&M	SOV*	Year 0 to 25: 1
	CTV**	Year 0 to 25: 730
WTG Main Components Exchange*	JUV	Year 0 to 25: 1
Survey Bathymetry Along Cable Route	Survey Vessel	Year 0 to 25: 1
Survey of Substructure Scour Protection	Survey Vessel	Year 0 to 25: 1
Survey of UXO Disposal*	Survey Vessel	Year 0 to 25: 1
BoP Maintenance	CTV**	Year 0 to 25: 365
OSPs O&M (up to 18 months)***	CTV	Year 0 to 2: 18
* Indicates an activity that is unscheduled and would only be undertaken if required (e.g. if UXO is identified or if major WTG components require replacement) ** CTV trip numbers shown are based upon a reasonable worst-case assumption that all CTVs would make a return trip from port to the Wind Farm Site every day of the year. However in reality the number is likely to be lower due to weather and mechanical downtime restricting the number of days per year on which CTVs will operate *** OSP O&M CTV trips are included in the BoP Maintenance CTV trip numbers above, however are also shown separately for sake of clarity		

9 Indicative Transit Route Corridors

Indicative transit corridor routes for project vessels have been defined in line with the relevant VMP conditions of the Offshore Consents. However, requirements for site vessels to comply with COLREGS (IMO, 1972) shall remain the key navigational priority at all times. On this basis it should be noted that these indicative routes are not intended to be prescriptive for the purposes of navigation and will not be followed precisely by every vessel. All vessels shall passage plan as per the International Regulations for the Safety of Life at Sea (SOLAS) (IMO, 1974). The indicative transit routes identified can be expected to be used when possible by the larger vessels involved in the construction phase, however vessels may deviate from these indicative routes for a variety of reasons at the discretion of the vessel's Master, for example due to:

- Compliance with COLREGS (IMO, 1972) or SOLAS (IMO, 1974);
- Prevailing weather, tidal or sea state conditions;
- Navigational hazards as indicated on charts or notified through NtM or other such sources;
- Due to the vessel originating from or being bound for a destination not indicated by the transit routes;
- Advice from the MC or other responsible persons in charge of coordinating and managing construction vessel traffic; and
- Such other reasons as the Master of a vessel may deem relevant for the purposes of ensuring the safety of his vessel or another vessel.

The indicative transit corridors for the major construction vessels between the Development and other relevant ports directions are presented in Figure 9.1.

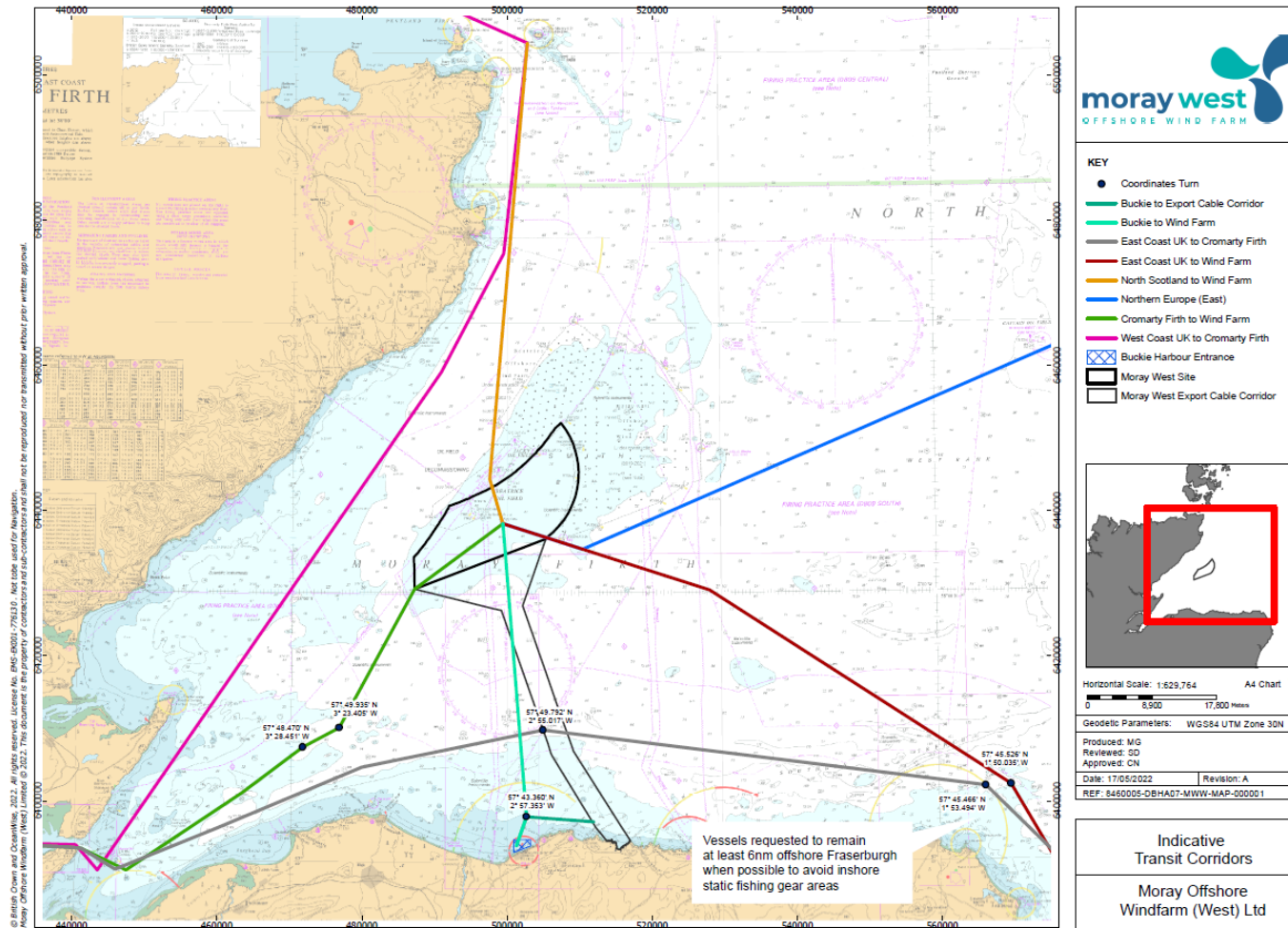


Figure 9.1: Indicative Transit Corridors

10 Anchoring

10.1 Anchorage Areas

Figure 10.1 presents the locations of known anchorages in the vicinity of the Development based upon the relevant Admiralty Sailing Directions (UKHO, 2018), and local Admiralty Charts. Details pertaining to the anchorage areas noted in the Pilot Book are provided in Table 10.1.

Anchoring is at the discretion of the vessel Master but can be in conjunction with the information provided by the MC 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; and
- Avoidance of main commercial routes, pilot boarding area or other navigational features such as spoil grounds or subsea cables.

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

It is noted that the Moray West Fisheries Management and Mitigation Strategy (FMMS) (8460005-DBHA14-MWW-PLN-000001) includes indicative preferential “shelter areas” for use by project vessels when seeking shelter or awaiting orders. As these “shelter areas” are a fisheries management strategy they are included in the FMMS rather than this VMNSP. Please refer to the Moray West FMMS (8460005-DBHA14-MWW-PLN-000001) for further details.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

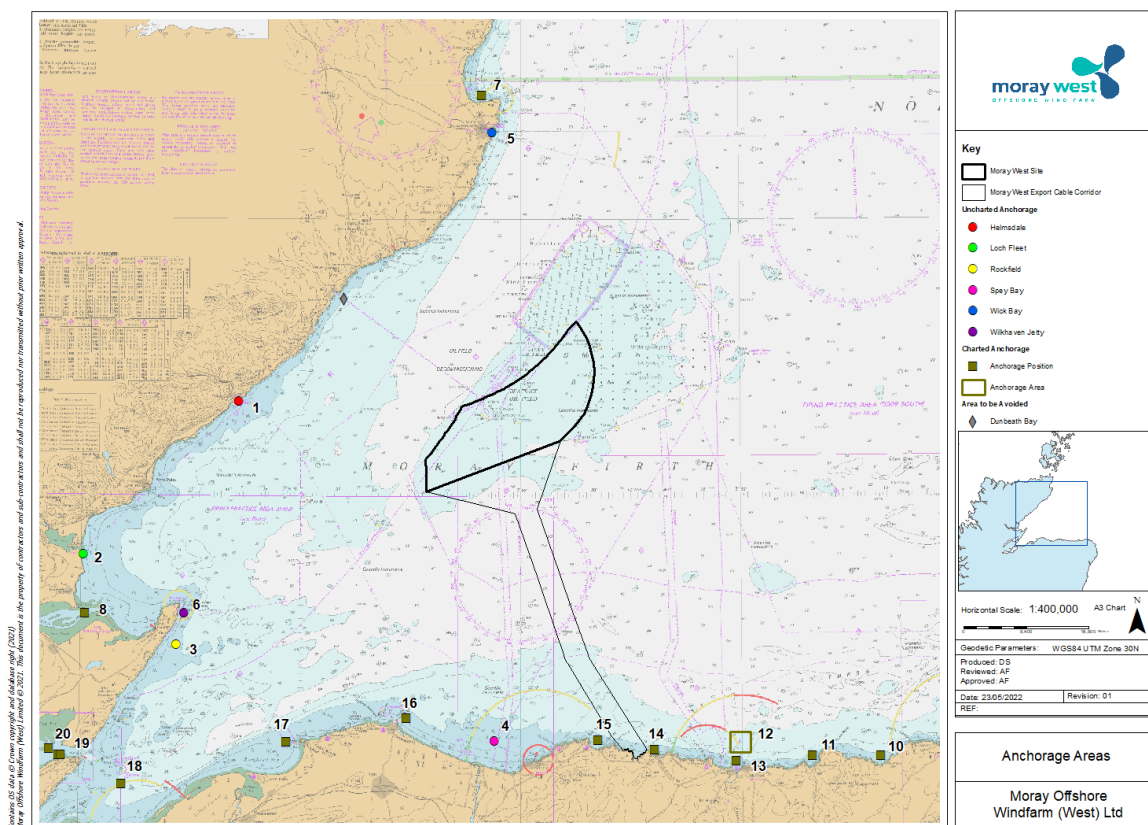


Figure 10.1 Anchorage Areas within the Moray Firth

Table 10.1: Summary of anchorage areas within Moray Firth as per Admiralty Sailing Directions		
Anchorage Number	Anchorage Name	Description
1	Helmsdale	Sheltered against winds from between SW and NW, can be obtained 5 cables SE of the harbour entrance in 12 m. the holding is good but there is a possibility of fouling the anchor on large rocks.
2	Loch Fleet	Anchorage can be found in about 3 m south east of the village, noting that submarine cables are laid across the channel between the disused piers.
3	Rockfield	Five cables E of Rockfield (57° 49' 40N 3° 48' 70W) in a depth of about 15 m with the extremity of land NE bearing 017°.
4	Spey Bay	Anchorage is available anywhere in Spey Bay W of the meridian of 3° W, but mariners are advised to remain in depths of not less than 10 m. in the event of strong NE winds the anchorage should be vacated at once as in these conditions the sea quickly starts to break at a considerable distance offshore.
5	Wick Bay	Sheltered anchorage on a sandy bottom in Wick Bay. An area of foul ground on the north side of the bay must be avoided due to UXO on the seabed.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

6	Wilkhaven Jetty	Five cables E of Wilkhaven Jetty (57° 51' 68N 3° 46' 72W) in depths of 13 to 14 m with the extremity of Tarbet Ness bearing 321°.
7	Sinclair's Bay	In fine settled weather Sinclair's Bay affords fair anchorage but it is not safe in unsettled conditions. With winds between SW and SE the best berth is in the S part of the bay in a depth of 16m with Ackergill Tower bearing 230° and Noss Head bearing 105°.
8	Dornoch Firth	There is an anchorage in depths of 6 to 7 m, mud and sand, fair holding, 8 cables ESE of Dornoch Point, the berth is sheltered from NE swell by Gizzen Briggs.
9	Fraserburgh Bay	Vessels can anchor in Fraserburgh Bay E of the harbour entrance. A good berth is in a depth of 11 m, 5.5 cables E of the harbour entrance, with Kinnaird Head Light bearing 300° and Corbie Hill bearing 191°. Larger vessels can anchor about 1.5 cables farther N in 14 to 15 m. The bottom of these berths is sand over rock and in bad weather vessels anchored in Fraserburgh Bay have been known to drag their anchors. Mariners are cautioned against anchoring on the leading line for the harbour entrance and to note an area of foul ground, of indeterminate size, lies W of the recommended berths.
10	Aberdour Bay	Aberdour Bay is entered between Quarry Head (57° 41' 07N 2° 09' 65W) and Strangles Point (57° 40' 77N 2° 12' 72W) and affords anchorage.
11	Garmie Bay	Anchorage can be obtained at Garmie Bay
12	Macduff Outer	An offshore anchorage is centred 1.75 miles N of Macduff harbour entrance, in depths of 25 to 40 m.
13	Banff Bay	Anchorage may also be obtained closer inshore off the entrance to Banff Bay in depths of about 12 m with Knock Head bearing 276° and Duff House bearing about 190°. Smaller vessels can anchor farther inshore, as appropriate to draught, where the ground swell which persists in the approaches to the bay is felt less.
14	Portsoy	Vessels awaiting sufficient tide to permit entering harbour can anchor 5 cables offshore NW of the harbour entrance, with Durn Hill (57° 39' 77N 2° 43' 28W) bearing 203°, in a depth of about 12 m.
15	Cullen Bay	Can be found in the outer part of Cullen Bay, with the railway viaduct bearing 193° and Scar Nose bearing about 280° in depths of 9 to 11 m.
16	Lossiemouth	If anchoring temporarily to await suitable tides for entry, mariners are advised to keep Covesea Skerries Lighthouse (disused) open N of Stotfield Head and to remain in depths of not less than 10 m. The best berth for larger vessels is in a depth of about 13m with the harbour entrance bearing 242° and Halliman Skerries Beacon (57° 44' 00N 3° 19' 28W) bearing 277°. The holding ground in this berth is good, but 2 cables farther E the bottom is rocky and the holding bad. Whenever anchoring off Lossiemouth care is necessary to avoid a submarine outfall, the extremity of which is marked by a buoy (special) (57° 43' 77N 3° 15' 93W).

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

17	Burghead	A recommended anchorage lies 1 mile W of the harbour entrance in a depth of about 11m, sand. Disused cables in the vicinity are no longer considered a hazard but a submarine outfall pipe, over which depths may be about 2.5 m less than charted on account of rock protection, extends 5.5 cables NW from the extremity of Burghead.
18	Outer Cromarty Firth	There is an anchorage for tankers in a depth of about 21m, sand and mud, three and a quarter miles (2.8 nm) east south east of South Sutor. Additionally, four anchorage berths, numbered from 14 to 17, for other vessels lie between seven cables and one and three quarter miles (1.5 nm) south east of South Sutor.
19	Cromarty	Anchorage can be found for coasters about two cables west of the harbour in a depth of about 6 m as indicated on the chart.
20	Cromarty Firth	There is an anchorage anywhere in the fairway between Cromarty and Invergordon in depths not exceeding 30 m. In the vicinity of Invergordon, the holding ground is only fair and deep water space is restricted; large vessels anchored in this vicinity may experience difficulty when getting under way during the out-going tidal stream. Numbered anchor berths for ships are indicated on the chart.

10.2 Anchoring Areas to be Avoided

According to the Admiralty Sailing Directions (UKHO, 2018) anchoring is prohibited in the vicinity of a submarine power cable from Beatrice Oil Field which lands in Dunbeath Bay. Beatrice Oil Field has since ceased production however until further information is provided, it is assumed that this area should still be avoided when anchoring. As per The Mariner's Handbook (Admiralty, 2020), anchoring should be avoided within 0.25nm of a cable. An exception may be made if the cable in question is one of Moray West's own cables (e.g. a vessel involved in the construction works needing to anchor) or during works to install third party cable crossings.

Consultation undertaken with the commercial fishing industry has identified a number of preferential "shelter areas" to be used whenever safe and practicable, to offer suitable holding areas or shelter in a variety of weather conditions. These were provided to fisheries stakeholders for review and comment. The shelter areas that were able to be agreed with fisheries stakeholders have been provided in the Moray West FMMS (8460005-DBHA14-MWW-PLN-000001).

The inclusion of preferential shelter areas in the Moray West FMMS (8460005-DBHA14-MWW-PLN-000001) does not over-ride the authority of any vessel master to take whatever navigational decisions are required for the safe operation of that vessel and other sea users. Because of this, Moray West cannot commit that any Moray West contracted vessel will always use these shelter areas, and the identification of preferential shelter areas does not infer that locations outside of these areas are designated as anchoring areas to be avoided.

Moray West also recognises that static fishing gear may be located anywhere in the Moray Firth and there is no expectation from Moray West that these shelter areas will be cleared of static fishing gear. Moray West contracted vessels will always maintain a lookout for, and avoid, appropriately marked fishing gear.

11 Compliance with MGN 654

The Offshore Consents set out in Appendix B3 require Moray West to demonstrate that the VMNSP has adequately addressed all of the recommendations of the current MGN 654 (MCA, 2021), and its annexes that may be appropriate to the Development, or any other relevant document which may supersede said guidance prior to approval of the VMNSP.

The latest version of MGN 654 (MCA, 2021) has therefore been reviewed and all appropriate recommendations (at this pre-construction stage of the development) have been identified. In each case it has been indicated where each of these recommendations has been addressed within this VMNSP document (or other relevant consent plan) for the Development. The review summary is provided in Appendix C.

12 References

Anatec, 2018. Moray West Navigation Risk Assessment. Aberdeen: Anatec.

DECC, 2011. Standard Marking Schedule for Offshore Installations. London: DECC

Energy Act 2004, Chapter 2, Section 95-97

IMO, 1972, COLREGS. IMO: London.

IMO, 1974, SOLAS. IMO: London.

MCA, 2016, Marine Guidance Note 543 –OREIs – Guidance on UK Navigational Practice, Safety and Emergency Response. Southampton: MCA.

MCA, 2019. Emergency Response Cooperation Plans (ERCoP): Template for Construction, Operations and Decommissioning phases. Southampton: MCA.

MCA, 2021. 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.

Moray West, 2022, Lighting and Marking Plan (8460005-DBHA012-MWW-PLN-000001). Edinburgh: Produced by Anatec on behalf of Moray West.

The Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007,

UKHO, 2018, NP52 North Coast of Scotland Admiralty Sailing Directions. Somerset: UKHO.

UKHO, 2020, NP5011 - Symbols and Abbreviations used in Admiralty Charts. Somerset: UKHO.

Appendix A – Defined Terms

Term	Description
Design Envelope	The range of design parameters used to inform the assessment of impacts.
Marine Licence for the Generating Station	Marine Licence for the Moray West Offshore Wind Farm - Licence Number: MS-00008731 - granted under the Marine and Coastal Access Act 2009, Part 4 Marine Licensing for marine renewables construction works and deposits of substances or objects in the Scottish Marine Area and the UK Marine Licensing Area granted to Moray West on 14 June 2019 and varied on 7 March 2022
Marine Licence for the Transmission Works	Marine Licence for the Offshore Transmission Infrastructure – Licence Number MS-06764/19/0 – granted under the Marine and Coastal Access Act 2009, & Marine (Scotland) Act 2010, Part 4 Marine Licensing for marine renewables construction works and deposits of substances or objects in the Scottish Marine Area and the UK Marine Licensing Area (referred to as the “OfTI Marine Licence”), granted to Moray West on 14 June 2019.
Moray Offshore Windfarm (West) Limited	The legal entity submitting this Project Environmental Monitoring Programme (PEMP).
Moray West EIA Report	The Environmental Impact Assessment Report for the Moray West Offshore Wind Farm and Associated Transmission Infrastructure, submitted July 2018. Additional information was provided in the Moray West Report to Inform an Appropriate Assessment (RIAA) July 2018 and Moray West Application Addendum Document November 2018
Moray West Offshore Wind Farm	The wind farm to be developed in the Moray West site (also referred as the Wind Farm).
Offshore Consents	Collective term for the two Marine Licences and the Section 36 consent
Offshore Consent Conditions	Collective term for the conditions attached to the Section 36 Consent and Marine Licences
Offshore Transmission Infrastructure (OfTI)	The offshore elements of the transmission infrastructure.
OfTI Corridor	The export cable route corridor, i.e., the OfTI area excluding the Moray West site.
Section 36 Consent	Section 36 consent under Section 36 of the Electricity Act 1989 for the construction and operation of the Moray West Offshore Wind Farm was granted on 14 June 2019 and varied on 7 March 2022.
The Development	The Moray West Offshore Wind Farm and OfTI.
The Development Site	The area outlined in Figure 1 attached to the Section 36 Consent Annex 1, Figure 1 attached to the two Marine Licences, and Figure B.1 of this VMNSP.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

The Moray West Site	The area in which the Moray West Offshore Wind Farm will be located. Section 36 Consents and associated Marine Licence to construct and operate generating stations on the Moray West site were granted in June 2019 and varied in March 2022.
The Works	The construction and O&M activities undertaken for the Development.
Transmission Infrastructure (TI)	Includes both offshore and onshore electricity transmission infrastructure for the consented wind farm. Includes connection to the national electricity transmission system near Broad Craig in Aberdeenshire encompassing Alternating Current (AC) Offshore Substation Platforms (OSPs), AC export cables offshore to landfall point at Broad Craig, near Sandend in Aberdeenshire continuing onshore to the AC collector station (onshore substation) at Whitehillock and the additional regional Transmission Operator substation at Blackhillock near Keith. A Marine Licence for the OfTI was granted in June 2019.

Appendix B - Development Background Information

B1 Development Description

Moray West Offshore Wind Farm is being developed by Moray Offshore Windfarm (West) Limited (Moray West; Company Number 10515140) who are registered at Octagon Point, 5 Cheapside, London, England, EC2V 6AA. Moray Offshore Windfarm (West) Limited is a wholly owned subsidiary of Moray West Holdings Limited which in turn is owned by Moray Offshore Renewable Power Limited, Delphis Holdings Limited, EDP Renewables Europe, S.L.U and UAB Ignitis Renewables.

The Moray West Site covers an area of approximately 225 km² on the Smith Bank in the Outer Moray Firth approximately 22 km from the Caithness coastline.

The Moray West Offshore Wind Farm will comprise 60 turbine generators (WTGs), associated substructures and seabed foundations, inter-array cables and any scour protection around substructures or cable protection. The OfTI comprises up to two offshore substation platforms (OSPs) which will be located within the Moray West Site, one OSP interconnector cable and two offshore export cable circuits which will be located within the OfTI Corridor and will be used to transmit the electricity generated by the offshore wind farm to shore.

The offshore export cable circuits will come ashore at Sandend Bay, which is located on the Aberdeenshire Coast at Broad Craig, approximately 65 km south of the Moray West Site. There will be two underground circuits from landfall at Sandend Bay to Whitehillock where the onshore substation will be located. There will also be further underground cabling between Whitehillock substation and Blackhillock substation. Moray West will transfer ownership of the transmission asset to an OFTO who will manage the transmission infrastructure.

Figure B.1 displays a map of the Moray West offshore wind farm and OfTI Corridor.

The development is aiming to be fully operational in 2024/25 with an operational life of 25 years from the date of final commissioning of the Development.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

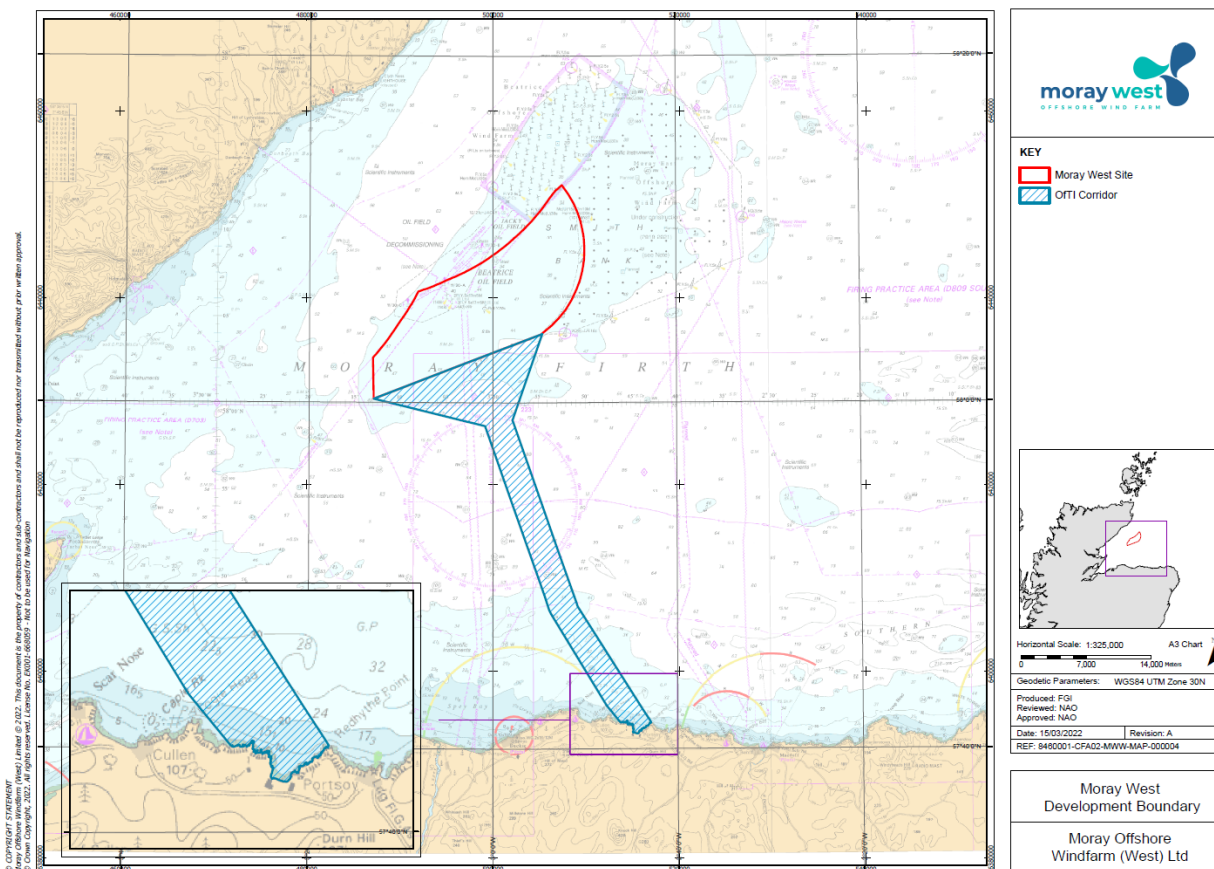


Figure B.1 Geographical location of the Moray West Site and OfTI Corridor

B2 Construction Programme Milestones

The key milestone dates associated with the construction activities of the Development are presented in Table B2.1.

Details of the programme for construction are provided in the Construction Programme (CoP).

Table B2.1 Key Milestones Dates	
Milestone	Anticipated Programme
First Generation	April 2024
Final Commissioning	November 2024
Wind Farm	
Commencement of Wind Farm Construction	Q3/early Q4 (following Scour protection installation Q2 2023)

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table B2.1 Key Milestones Dates	
OfTI	
Commencement of OfTI Construction	December 2022

B3 Legal Context

Table B3.1 provides a list of S36 and Marine Licence consent conditions relevant to this VMNSP and how they are addressed within it.

Table B3.1 Consent conditions to be discharged by this VMNSP		
Consent Condition Reference	Condition	Relevant Section of this VMNSP
VMP		
Section 36 Condition 15	The Company must, no later than six months prior to the Commencement of the Development, submit a Vessel Management Plan ("VMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with Scottish Natural Heritage (SNH), the Maritime and Coastguard Agency (MCA), the Royal Yachting Association (RYA), the Scottish Fishermen's Federation (SFF) and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. Commencement of the Development cannot take place until such approval is granted.	The VMNSP will be submitted to the Scottish Ministers for approval as required.
	The VMP must include, but not be limited to, the following details: a) The number, types and specification of vessels required; b) How vessel management will be coordinated, particularly during construction but also during operation; c) Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Development.	Vessel details are provided in a) Section 7. b) Section 6. c) Working ports are discussed in Section 5, vessel movements in Section 8, and indicative transit corridors in Section 9.
	The confirmed individual vessel details must be notified to the Scottish Ministers in writing no later than 14 days prior to the Commencement of the Development, and thereafter, any	Section 7.2.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	changes to the details supplied must be notified to the Scottish Ministers, as soon as practicable, prior to any such change being implemented in the construction or operation of the Development.	
	The VMP must, so far as is reasonably practicable, be consistent with the Construction Method Statement (CMS), the Environmental Management Plan (EMP), the Project Environmental Monitoring Programme (PEMP), the NSP, and the Lighting and Marking Plan (LMP).	Section 1.3.
Wind Farm Marine Licence – Vessel Management Plan 3.2.2.12	The Licensee must, no later than six months prior to the Commencement of the Works, submit a VMP, in writing, to the Licensing Authority for its written approval. Such approval may only be granted following consultation by the Licensing Authority with SNH, MCA, RYA, SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. Commencement of the Works cannot take place until such approval is granted.	The VMNSP will be submitted to the Scottish Ministers for approval as required.
	The VMP must include, but not be limited to, the following details: a) The number, types and specification of vessels required; b) The manner in which vessel management will be coordinated, particularly during construction but also during operation; c) Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Works; and d) A fishing gear Transit Notice. The Transit notice must lay out guidelines for vessels operating in and around the Site and transiting into the Site from relevant ports.	Vessel details are provided in a) Section 7 b) Section 6 c) Working ports are discussed in Section 5, vessel movements in Section 8, and indicative transit corridors in Section 9. d) See Fisheries Management and Mitigation Strategy (8460005-DBHA14-MWW-PLN-000001) Appendix H: Commercial Fishing Interaction Standard Operating Procedures
	The confirmed individual vessel details must be notified to the Licensing Authority in writing no later than 14 days prior to the Commencement of the Works, and thereafter, any changes to the details supplied must be notified to the Licensing Authority, as soon as practicable, prior to any such change being implemented in the construction or operation of the Works.	Section 7.2.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	The VMP must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the NSP, and an LMP. The final VMP must be sent to the Northern Lighthouse Board (NLB) for information only.	Section 1.3.
OFTI Marine Licence – Vessel Management Plan 3.2.2.11	The Licensee must, no later than six months prior to the Commencement of the Works, submit a Vessel Management Plan (“VMP”), in writing, to the Licensing Authority for its written approval. Such approval may only be granted following consultation by the Licensing Authority with SNH, MCA, RYA, SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. Commencement of the Works cannot take place until such approval is granted.	The VMNSP will be submitted to the Scottish Ministers for approval as required.
	The VMP must include, but not be limited to, the following details: a) The number, types and specification of vessels required; b) How vessel management will be coordinated, particularly during construction but also during operation; c) Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Works	a) Vessel details are provided in Section 7. b) Section 6. c) Working ports are discussed in Section 5, vessel movements in Section 8, and indicative transit corridors in Section 9.
	The confirmed individual vessel details must be notified to the Licensing Authority in writing no later than 14 days prior to the Commencement of the Works, and thereafter, any changes to the details supplied must be notified to the Licensing Authority, as soon as practicable, prior to any such change being implemented in the construction or operation of the Works.	Section 7.2.
	The VMP must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the NSP, and the LMP.	Section 1.3.
NSP		
Section 36 Condition 17	The Company must, no later than six months prior to the Commencement of the Development, submit a Navigational Safety Plan (“NSP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB, RYA, SFF and any other navigational advisors or organisations as may be required at the discretion of the	The VMNSP will be submitted to the Scottish Ministers for approval as required.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	Scottish Ministers. Commencement of the Development cannot take place until such approval is granted.	
	The NSP must include, but not be limited to, the following issues: a) Navigational safety measures; b) Construction exclusion zones⁴; c) Notice(s) to mariners and radio navigation warnings; d) Anchoring areas; e) Temporary construction lighting and marking; and f) Buoyage	a) Sections 2 and 3. b) Section 2.5. c) Section 4. d) Section 10. e) Section 2.2. f) Section 2.2.
	The Company must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note ("MGN") 543 ⁵ , and its annexes that may be appropriate to the Development, or any other relevant document which may supersede this guidance prior to approval of the NSP.	Section 11.
Wind Farm Marine Licence – Navigation Safety Plan 3.2.2.14	The Licensee must, no later than six months prior to the Commencement of the Works, submit a NSP in writing, to the Licensing Authority for its written approval. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB, RYA, SFF and any other navigational advisors or organisations as may be required at the discretion of the Licensing Authority. Commencement of the Works cannot take place until such approval is granted.	The VMNSP will be submitted to the Scottish Ministers for approval as required.
	The NSP must include, but not be limited to, the following issues: a) Navigational safety measures; b) Construction exclusion zones; c) Notice(s) to mariners and radio navigation warnings; d) Anchoring areas; e) Temporary construction lighting and marking; and f) Buoyage.	a) Sections 2 and 3. b) Section 2.5. c) Section 4. d) Section 10. e) Section 2.2. f) Section 2.2.
	The Licensee must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current MGN 543 and its annexes that may be appropriate to the Works, or any other relevant document which may supersede this guidance prior to approval of the NSP.	Section 11.

⁴ Safety zones for which requirements are set out in the Energy Act (2004) and clarified in the Electricity (Offshore Generating Stations) (Safety Zones) (Applications Procedures and Control of Access) Regulations (2007)

⁵ Has since been updated to MGN 654 (MCA, 2021)

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

OfTI Marine Licence – Navigation Safety Plan 3.2.2.13	The Licensee must, no later than six months prior to the Commencement of the Works, submit a NSP in writing, to the Licensing Authority for its written approval. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB, RYA, SFF and any other navigational advisors or organisations as may be required at the discretion of the Licensing Authority. Commencement of the Works cannot take place until such approval is granted.	The VMNSP will be submitted to the Scottish Ministers for approval as required.
	The NSP must include, but not be limited to, the following issues: a) Navigational safety measures; b) Construction exclusion zones; c) Notice(s) to mariners and radio navigation warnings; d) Anchoring areas; e) Temporary construction lighting and marking; and; f) Buoyage	a) Sections 2 and 3. b) Section 2.5. c) Section 4. d) Section 10. e) Section 2.2. f) Section 2.2
	The Licensee must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current MGN 543 and its annexes that may be appropriate to the Works, or any other relevant document which may supersede this guidance prior to approval of the NSP.	Section 11.

In addition to the specific consent requirements for a VMNSP and the requirements thereof (as set out in Table B3.1), this VMNSP document also includes information in respect of a number of other conditions within the offshore consents which are linked to the VMNSP; these are set out in Table B3.2 below.

Whilst this VMNSP does not seek to explicitly discharge these conditions, it provides the relevant information on the measures to be put in place to allow them to be discharged prior to Commencement of the Development, and / or during the progress of construction and during O&M.

Table B3.2 Other consent conditions relevant to the VMNSP		
Condition	Summary of Condition	Relevant Section of this VMNSP
General conditions		
Wind Farm Marine Licence – 3.1.3 Vessels, vehicles, agents, contractors and sub-contractors	The Licensee must ensure that at least five days prior to its engagement in the Licensed Activities, the name and function of any vessel, agent, contractor or subcontractor appointed to engage in the Works and, where applicable, the master's name, vessel type, vessel International Maritime Organization (IMO) number and vessel owner or operating company are fully detailed in the	See Appendix B3 and Section 7 which sets out how Moray West will ensure construction vessels are aware of and in compliance with the Marine Licence conditions.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

OfTI Marine Licence – 3.1.3 Vessels, vehicles, agents, contractors and sub-contractors	Vessel Report. The Licensee must make the Vessel Reports and the Contractor Reports available on the Moray Offshore Windfarm (West) Limited webpage: http://www.moraywest.com Any changes to the supplied details must be uploaded to the Vessel Report and the Contractor Report and the Licensing Authority must be notified, in writing, prior to any vessel, agent, contractor or sub-contractor which has not yet been notified to the Licensing Authority engaging in the Licensed Activities. Only those vessels, agents, contractors or sub-contractors detailed in the Vessel Report are permitted to carry out any part of the Works. The Licensee must satisfy itself that any masters of vessels or vehicle operators, agents, contractors or sub-contractors are aware of the extent of the Licensed Activities and the conditions of this licence. All masters of vessels or vehicle operators, agents, contractors and sub-contractors permitted to engage in the Works must abide by the conditions of this licence. The Licensee must give a copy of this licence, and any subsequent variations made to this licence in accordance with section 72 of the 2009 Act, to the masters of any vessels, vehicle operators, agents, contractors or sub-contractors permitted to engage in the Works and must ensure that the licence and any such variations are read and understood by those persons.	
Prior to the commencement of the works		
Wind Farm Marine Licence – 3.2.2.2 Charting Requirements	The Licensee must, prior to the Commencement of the Works, provide the positions and maximum heights of any Wind Turbine Generator (WTG) and construction equipment to the United Kingdom Hydrographic Office (UKHO), for nautical charting purposes, and to the Defence Geographic Centre, for aviation purposes.	See Section 4.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Wind Farm Marine Licence – 3.2.2.18 Navigation and Charting OfTI Marine Licence – 3.2.2.17 Navigation and Charting	The Licensee must, no later than one calendar month prior to Commencement of the Works, notify the UKHO of the proposed works to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system. The Licensee must, no later than one calendar month prior to Commencement of the Works, ensure that local mariner’s organisations and local fishermen’s organisations and HM Coastguard are made fully aware of the Works through local Notice to Mariners or by any other appropriate means. The Licensee must ensure that details of the Licensed Activities are promulgated in the Kingfisher Fortnightly Bulletin, no later than one calendar month prior to the Commencement of the Works to inform the commercial fishing industry of the vessel routes and the timing and location of the construction activities. The Licensee must, no later than eight weeks prior to the Commencement of the Works, complete an “Application for Statutory Sanction to Alter/Exhibit” form and submit this to the NLB for the necessary sanction to be granted.	General promulgation of information including to the UKHO and Notices to Mariners (NtMs) are discussed in Section 4. Kingfisher bulletins notifications are detailed in Section 4.5. Statutory sanction requirements are set out in Section 2.2.
Section 36 Condition 22 Wind Farm Marine Licence – 3.2.2.27 Navigation and Charting	The Company must notify the Ministry of Defence (MoD), at least 14 days prior to the Commencement of the Development, in writing of the following information: a) the earliest date of the Commencement of the Development; b) the earliest date any WTGs are brought into use; c) the maximum height of any construction equipment 50 metres or greater in height above mean sea level, to be used; and d) the maximum heights of any WTG, offshore platforms or other, temporary or permanent, offshore structures 50 metres or greater in height, above mean sea level, to be deployed or constructed.	See Section 4.44.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

During the construction of the works		
Wind Farm Marine Licence – 3.2.3.2 Navigational Safety	The Licensee must notify the UKHO of the progress of the construction of the Works to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system.	Promulgation of information including to the UKHO and via Kingfisher Bulletins are covered in Section 4.
OfTI Marine Licence – 3.2.3.2 Navigational Safety	The Licensee must ensure that progress of the Works is promulgated regularly in the Kingfisher Fortnightly Bulletin to inform the commercial fishing industry of the vessel routes and the timing and location of the construction activities.	Notifications and remedial actions required with regards to damage, destruction or decay associated with the Development are covered in Sections 2.9 and 3.7.
	The Licensee must in the case of damage to, or destruction or decay of, the Works, notify the Licensing Authority, in writing, as soon as reasonably practicable, following such damage, destruction or decay. The Licensee must carryout any remedial action as required by the Licensing Authority, following consultation with the MCA, the NLB or any such advisers as required by the Licensing Authority.	Marking of vessels is covered in Section 7.1.
	The Licensee must ensure that any vessels permitted to engage in the construction of the Works are marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the UK Standard Marking Schedule for Offshore Installations if the vessel is secured to the seabed.	Marine frequency bands of radio beacons and / or radar beacons are covered in Section 2.3.
	The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the Office of Communications (“OfCom”).	As per Section 11, Moray West will comply with MGN 654 including in relation to changes in water depth of greater than 5%.
	The Licensee must ensure that navigable depth is not altered by more than 5% referenced to Chart Datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.	

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Wind Farm Marine Licence – 3.2.3.3 Markings, lighting and signals of the Works	The Licensee must ensure that the Works are marked and lit in accordance with an approved LMP at all times. The LMP and any subsequent amendments must be approved by the Licensing Authority following consultation with SNH, MCA, NLB, Civil Aviation Authority (CAA), MoD, RYA, Aberdeenshire Council, The Highland Council, Moray Council. The display of unauthorised marks or lights is prohibited. The Licensee must ensure that the Works are marked and lit in accordance with IALA Recommendation O-139. Unless otherwise approved by the Licensing Authority, the LMP must include but not be limited to: a) the lighting requirements of the MCA, NLB, CAA and MoD; b) that the boundary WTG, where they are more than 900m apart, must be lit with a single 2000 candela, red aviation light, flashing Morse 'W' in unison with all other boundary WTG; c) that all other WTG must be fitted with a fixed single red 200 candela aviation light for Search and Rescue ("SAR") purposes; and d) that all WTG aviation lights should be compatible with night vision imaging systems. The Licensee must ensure that during the construction phase the Site boundary is marked by a mixture of lit Cardinal Mark and lit Special Mark buoys, to be agreed with NLB. These buoys must be a minimum of 3 metres in diameter at the waterline, have a focal plane of at least 3 metres above the waterline and be fitted with a topmark and radar reflector. The light range on these buoys must be 5 Nautical Miles. AIS (Automatic Identification System) Aids to	See Sections 2.2 (construction) and 3.2 (O&M).
---	--	---

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	Navigation (AtoN) must be fitted to Cardinal Marks.	
OfTI Marine Licence - 3.2.3.3 Markings, lighting and signals of the Works	The Licensee must ensure that the Works are marked and lit in accordance with an approved LMP at all times. The LMP and any subsequent amendments must be approved by the Licensing Authority following consultation with SNH, MCA, NLB, CAA, MoD, RYA and Aberdeenshire Council. The display of unauthorised marks or lights is prohibited. The Licensee must ensure that the Works are marked and lit in accordance with IALA Recommendation O-139.	See Sections 2.2 (construction) and 3.2 (O&M).
Upon completion of the works		
Wind Farm Marine Licence - 3.2.4.4 Navigational Safety	The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of admiralty charts and publications through the national Notice to Mariners system. The Licensee must, within one month of the Completion of the Works, provide the “as-built” positions and maximum heights of all WTG, along with any sub-sea infrastructure, to the UKHO for aviation and nautical charting purposes. The Licensee must, as per the requirements of the MCA’s MGN 543 and supplementary updates, complete post-installation hydrographic surveys of the Site or subsections thereof, to the International Hydrographic Organization (IHO) Order 1a survey standard. On completion of these surveys, the data and a corresponding report of survey must be supplied to the UKHO, with notification to the MCA hydrography manager and the Licensing Authority. The Licensee must ensure that local mariners, fishermen’s organisations and HM Coastguard, in this case the National Maritime Coastguard Centre are made fully aware of the Completion of the Works.	Promulgation of information including to the UKHO and via Kingfisher Bulletins are covered in Section 4. As per Section 11, Moray West will comply with MGN 654 including in relation to post-installation hydrographic surveys. Notifications and remedial actions required with regards to damage, destruction or decay associated with the Development are covered in Sections 2.9 and 3.7. Marine frequency bands of radio beacons and / or radar beacons are covered in Section 2.3. Statutory sanction is covered in Sections 2.2 and 3.2.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the commercial fishing industry. The Licensee must, where any damage, destruction or decay is caused to the Works, notify the Licensing Authority, in writing, of such damage, destruction or decay as soon as reasonably practicable following such damage, destruction or decay. The Licensee must carry out any remedial action which the Licensing Authority advises the Licensee, in writing, as requiring to be taken, which may include a requirement to display aids to navigation, following consultation by the Licensing Authority with the MCA, the NLB or any such advisers as required. The Licensee must ensure that the WTG are actively monitored during the operation and maintenance phases. The Licensee must ensure that a contingency plan is in place to respond to any reported catastrophic failures which may result in the WTG, or part(s) thereof, breaking loose and becoming a buoyant hazard. This contingency plan should include the transmission of local radio navigation warnings. The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the OfCom. The Licensee must not exhibit, alter or discontinue navigational lighting of the Works without the statutory sanction of the Commissioners of Northern Lighthouses. An 'Application for Statutory Sanction to Exhibit/Discontinue' form must be completed by the Licensee as fully as possible and returned to the NLB for the necessary sanction to be granted prior to exhibiting, altering or discontinuing navigational lighting.	
--	--	--

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

OfTI Marine Licence - 3.2.4.4 Navigational Safety	The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of Admiralty Charts and publications through the national Notice to Mariners system. The Licensee must, within one month of the Completion of the Works, provide the “as-built” positions and maximum heights of all Offshore Substation Platforms (OSPs) along with any sub-sea infrastructure, to the Defence Geographic Centre and the UKHO for aviation and nautical charting purposes. The Licensee must, as per the requirements of the MCA’s MGN 543 and any appropriate updates, complete post-installation hydrographic surveys of the Site or subsections thereof, to the IHO Order 1a survey standard. On completion of these surveys the data and a corresponding report of survey must be supplied to the UKHO, with notification to the MCA hydrography manager and the Licensing Authority. The Licensee must ensure that local mariners, fishermen’s organisations and HM Coastguard, in this case the National Maritime Coastguard Centre are made fully aware of the Completion of the Works. The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the commercial fishing industry. The Licensee must, where any damage, destruction or decay is caused to the Works, notify the Licensing Authority, in writing, of such damage, destruction or decay as soon as reasonably practicable following such damage, destruction or decay. The Licensee must carry out any remedial action which the Licensing Authority advises the Licensee, in writing, as requiring to be taken, which may include a requirement to display aids to navigation, following consultation by the Licensing Authority	Promulgation of information including to the UKHO and via Kingfisher Bulletins are covered in Section 4. As per Section 11, Moray West will comply with MGN 654 including in relation to post-installation hydrographic surveys. Notifications and remedial actions required with regards to damage, destruction or decay associated with the Development are covered in Sections 2.9 and 3.7. Marine frequency bands of radio beacons and / or radar beacons are covered in Section 2.3. Statutory sanction is covered in Sections 2.2 and 3.2.
--	---	---

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	with the MCA, the NLB or any such advisers as required. The Licensee must ensure that the Works are actively monitored during the operation and maintenance phases. The Licensee must ensure that a contingency plan is in place to respond to any reported catastrophic failures which may result in the Works, or part(s) of the Works, breaking loose and becoming a buoyant hazard. This contingency plan should include the transmission of local radio navigation warnings. The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of OfCom. The Licensee must not exhibit, alter or discontinue navigational lighting of the Works without the statutory sanction of the Commissioners of Northern Lighthouses. An 'Application for Statutory Sanction to Exhibit/Discontinue' form must be completed by the Licensee as fully as possible and returned to the NLB for the necessary sanction to be granted prior to exhibiting, altering or discontinuing navigational lighting	
Wind Farm Marine Licence - 3.2.4.5 Markings, lighting and signals of the Works	The Licensee must ensure that the Works are marked and lit in accordance with an approved LMP at all times. The LMP and any subsequent amendments must be approved by the Licensing Authority following consultation with the NLB, MCA, CAA and the MoD. The display of unauthorised marks or lights is prohibited. The Licensee must ensure that the Works are marked and lit in accordance with IALA Recommendation O-139. Unless otherwise approved by the Licensing Authority, the LMP must include: a) the lighting requirements of the MCA, NLB, CAA and MoD;	See Sections 2.2 (construction) and 3.2 (O&M).

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

	b) that the boundary WTG, where they are more than 900m apart, must be lit with a single 2000 candela, red aviation light, flashing Morse 'W' in unison with all other boundary WTG; c) that all other WTG must be fitted with a fixed single red 200 candela aviation light for SAR purposes; and d) that all WTG aviation lights should be compatible with night vision imaging systems.	
OfTI Marine Licence - 3.2.4.5 Markings, lighting and signals of the Works	The Licensee must ensure that the Works are marked and lit in accordance with an approved LMP at all times. The LMP and any subsequent amendments must be approved by the Licensing Authority following consultation with the NLB, MCA, CAA and the MoD. The display of unauthorised marks or lights is prohibited. The Licensee must ensure that the Works are marked and lit in accordance with International IALA Recommendation O-139.	See Sections 2.2 (construction) and 3.2 (O&M).
Wind Farm Marine Licence - 3.2.4.8 Charting Requirements	The Licensee must, within one month of the final Completion of the Works, provide the coordinates accurate to three decimal places of minutes of arc for each WTG, position and maximum heights of the WTG to UKHO and the Defence Geographic Centre for nautical charting and aviation purposes.	See Section 4.4.
OfTI Marine Licence - 3.2.4.8 Charting Requirements	The Licensee must, within one month of the final Completion of the Works, provide the coordinates accurate to three decimal places of minutes of arc for each OSP, position and maximum heights of the OSP to UKHO and the Defence Geographic Centre for nautical charting and aviation purposes.	See Section 4.4.

Appendix C - MGN 654 Compliance

Table C1.1 MGN 654 Compliance		
MGN 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 coordinates in WGS84 (ETRS89) datum.	Section 4 details the methods for promulgation of information during the various stages of the Development. The ERCoP (see Section 2.8) will also describe the procedures for communication of OREI positions in the event of an emergency
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:	Navigational risk has been assessed within the Moray West EIA Report which included a Navigation Risk Assessment. (Anatec, 2018)

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table C1.1 MGN 654 Compliance		
	i. for specified vessels types, operations and/or sizes, 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 routing 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.	See Sections 2.8 and 3.6.
	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.	As per Section 11 Moray West will comply with MGN 654 and its annexes.
	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)	This will be completed in liaison with the MCA.
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	Moray West will comply with MGN 654 hydrographic requirements.

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table C1.1 MGN 654 Compliance		
	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) Post-decommissioning of all or part of the development: the installed generating assets area and cable route	
4.14 Risk mitigation measures recommended for OREI during construction, operation and decommissioning.	Promulgation of information and warnings through notices to mariners and other appropriate maritime safety information (MSI) dissemination methods.	See Section 4.
	Continuous watch by multi-channel VHF, including Digital Selective Calling (DSC).	See Section 6.
	Safety zones of appropriate configuration, extent and application to specified vessels.	See Sections 2.5 and 3.3.
	Provision of AtoN as determined by the GLA.	See Sections 2.2 and 3.2.
	Monitoring by radar, AIS, CCTV or other agreed means.	Associated requirements to be agreed as part of the SAR checklist process.
	Appropriate means for OREI operators to notify, and provide evidence of, the infringement of safety zones.	See Sections 2.5 and 3.3.
	Creation of an Emergency Response Cooperation Plan with the MCA's Search and Rescue Branch for the construction phase onwards.	See Sections 2.8 and 3.6.

Moray Offshore Windfarm (West) Limited Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Table C1.1 MGN 654 Compliance		
	Use of guard vessels, where appropriate	See Section 2.4.

Appendix D - Commercial Fishing Interaction Standard Operating Procedures (SOPs)

An SOP is a set of step-by-step instructions to effectively achieve consistency of approach in the response to any commercial fishing interaction with a Moray West contracted vessel.

General Working

OFLO on board

Offshore Fisheries Liaison Officer (OFLO) to monitor fishing activity in the relevant area to the survey/construction vessel and record observed fishing vessel positions and static gear positions, along with any communications had with fishing vessels. This will be included in the daily progress report with supporting information of date, time, location, description of static gear markers/fishing vessel, and photos if possible. Any fishermen contacted should be provided with the Company Fisheries Liaison Officer (CFLO) contact details.

No OFLO

Survey/construction vessel watch keeper to maintain communications with onsite guard vessel in order to monitor fishing activity in the relevant area and record observed fishing vessel positions and static gear positions, along with any communications had with fishing vessels. This information will be recorded in the guard vessel's daily report and, if required, be reported on an ad-hoc basis to the CFLO with supporting information of date, time, location, description of static gear markers/fishing vessel, and photos if possible. Any fishermen contacted should be provided with the CFLO contact details.

Static gear – crab and lobster creels

SOP 1: Snag/Damage to static fishing gear

Should any Moray West contracted survey/construction vessel snag or damage any static fishing gear or are contacted by a fisherman claiming a survey/construction vessel has snagged their gear, all contracted vessels should be aware that there is a gear/damage loss protocol to follow.



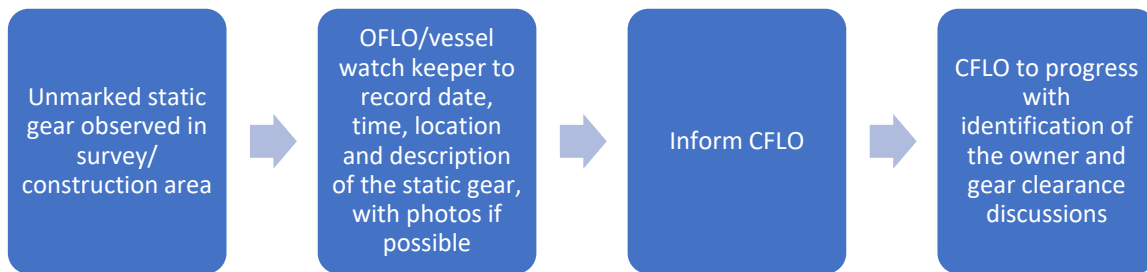
SOP 2: Unattended unmarked static gear

Moray Offshore Windfarm (West) Limited

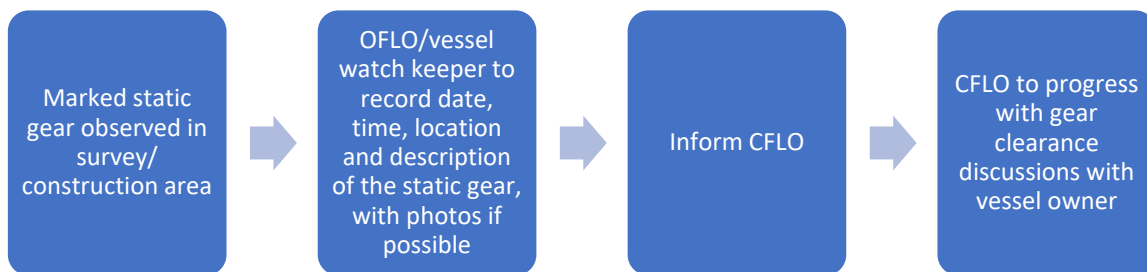
Vessel Management and Navigation Safety Plan



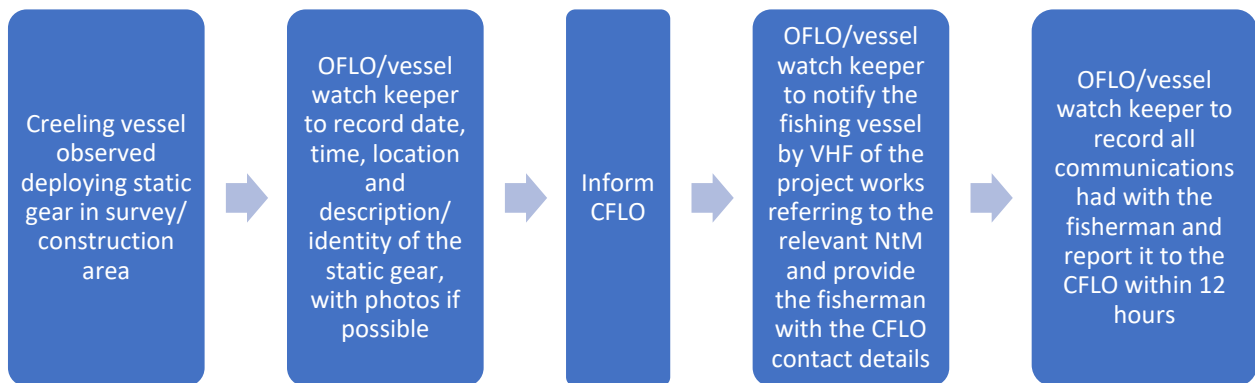
8460005-DBHA07-MWW-PLN-000001



SOP 3: Unattended marked static gear



SOP 4: Vessel observed deploying static gear within the survey/construction area



Mobile Fishing Activity

Vessels contracted by Moray West to undertake survey and construction works will be required to adhere to all elements of the COLREGs and the Code of Good Practice for Moray West Contracted Vessels (Appendix D).

Moray Offshore Windfarm (West) Limited

Vessel Management and Navigation Safety Plan



8460005-DBHA07-MWW-PLN-000001

Many of the Moray West contracted vessels undertaking construction/survey works will be defined as restricted in their manoeuvrability (RAM) (Rule 3g) when carrying out their work. The hierarchy of responsibilities between vessels under COLREGs Rule 18 c ii states that: *"A vessel engaged in fishing when underway, shall, so far as is possible, keep out of the way of: (ii) A vessel restricted in her ability to manoeuvre"*, therefore vessels engaged in fishing mobile gears should pass construction/survey vessels at a safe and clear distance. However, consideration needs to be given to any vessels engaged in fishing and potential subsea hazards they may be navigating around.

Communication between the OFLO, guard vessels and construction vessels is paramount to ensure no negative interactions occur.

SOP 5: Mobile Gear Vessel Fishing in Survey/Construction Area

