MORAY EAST
OFFSHORE WINDFARM

Marine Pollution Contingency Plan

Telford, Stevenson and MacColl Offshore Wind Farms and Associated Offshore Transmission Infrastructure

September 2018

Moray Offshore Windfarm (East) Limited

Produced by Royal HaskoningDHV and Moray Offshore Windfarm (East) Limited	
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Table of Contents

In the event of an incident, please navigate directly to Section 6.

List of Figures

List of Tables

Definitions

The following definitions have been used throughout this document with respect to the company, the consented wind farms and how these definitions have changed since submission of the Moray East Environmental Statement (ES) in 2012 and the Moray East Modified Transmission Infrastructure ES in 2014.

- **Moray Offshore Windfarm (East) Limited (formerly known as Moray Offshore Renewables Limited)** – the legal entity submitting this Marine Pollution Contingency Plan (MPCP);
- **Moray East Offshore Wind Farm** - the wind farm to be developed in the Moray East site (also referred as the Wind Farm);
- **The Moray East site** - the area in which the Moray East Offshore Wind Farm will be located. Section 36 Consents and associated Marine Licences to develop and operate up to three generating stations on the Moray East site were granted in March 2014. At that time the Moray East site was known as the "Eastern Development Area (EDA)" and was made up of three sites known as the Telford, Stevenson and MacColl offshore wind farm sites; The Section 36 Consents and Marine Licences were subsequently varied in March 2018;
- **Telford, Stevenson and MacColl wind farms** – these names refer to the three consented offshore wind farm sites located within the Moray East site;
- **Transmission Infrastructure (TI)** - includes both offshore and onshore electricity transmission infrastructure for the consented Telford, Stevenson and MacColl wind farms. Includes connection to the national electricity transmission system near New Deer in Aberdeenshire encompassing AC offshore substation platforms (OSPs), AC OSP interconnector cables, AC export cables offshore to landfall point at Inverboyndie continuing onshore to the AC collector station (onshore substation) and the additional regional Transmission Operator substation near New Deer. A Marine Licence for the offshore TI was granted in September 2014 and a further Marine Licence for two additional distributed offshore substation platforms (OSPs) was granted in September 2017.The onshore TI was awarded Planning Permission in Principle in September 2014 by Aberdeenshire Council and a Planning Permission in Principle under Section 42 in June 2015;
- **Offshore Transmission Infrastructure (OfTI)** – the offshore elements of the transmission infrastructure, comprising AC OSPs, OSP inter-connector cables and AC export cables offshore to landfall (for the avoidance of doubts some elements of the OfTI will be installed in the Moray East site);
- **Moray East ES 2012** – The ES for the Telford, Stevenson and MacColl wind farms and Associated Transmission Infrastructure, submitted August 2012;
- **Moray East Modified TI ES 2014** – the ES for the TI works in respect to the Telford, Stevenson and MacColl wind farms, submitted June 2014;
- **The Development** – the Moray East Offshore Wind Farm and Offshore Transmission Infrastructure (OfTI);
- **Design Envelope** - the range of design parameters used to inform the assessment of impacts;
- **OfTI Corridor** – the export cable route corridor, i.e. the OfTI area as assessed in the Moray East Modified TI ES 2014 excluding the Moray East site; and
- **the Applications** – (1) the Application letter and ES submitted to the Scottish Ministers on behalf of Telford Offshore Windfarm Limited, on 2nd August 2012 and the Additional Ornithology Information submitted to the Scottish Ministers by Moray Offshore Renewables Limited on the 17th June 2013; (2) the Section 36 Consents Variation Application Report for

Telford, Stevenson and MacColl Offshore Wind Farms dated December 2017 and (3) the Marine Licence Applications and associated documents submitted for the OfTI Licences.

- **Moray East Offshore Wind Farm Consents** – are comprised of the following:

  Section 36 Consents:

  - Section 36 consent for the Telford Offshore Wind Farm (as varied) – consent under section 36 of the Electricity Act 1989 for the construction and operation of the Telford Offshore Wind Farm assigned to Moray East on 19 June 2018.
  - Section 36 consent for the Stevenson Offshore Wind Farm (as varied) – consent under section 36 of the Electricity Act 1989 for the construction and operation of the Stevenson Offshore Wind Farm assigned to Moray East on 19 June 2018.
  - Section 36 consent for the MacColl Offshore Wind Farm (as varied) – consent under section 36 of the Electricity Act 1989 for the construction and operation of the MacColl Offshore Wind Farm assigned to Moray East on 19 June 2018.

  Marine Licences

  - Marine Licence for the Telford Offshore Wind Farm (as varied) – Licence Number: 04629/18/1 – consent under the Marine (Scotland) Act 2010 & 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 United Kingdom Marine Licensing Area transferred to Moray East on 19 July.
  - Marine Licence for the Stevenson Offshore Wind Farm (as varied) – Licence Number: 04627/18/1 – consent under the Marine (Scotland) Act 2010 & 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 United Kingdom Marine Licensing Area transferred to Moray East on 19 July.
  - Marine Licence for the MacColl Offshore Wind Farm (as varied) – Licence Number: 04628/18/2 - consent under the Marine (Scotland) Act 2010 & 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 United Kingdom Marine Licensing Area transferred to Moray East on 19 July.

- **OfTI Licences** – are comprised of the following:

  - Marine Licence for the Offshore Transmission infrastructure – Licence Number 05340/14/0 – consent under the Marine (Scotland) Act 2010 & 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 United Kingdom Marine Licensing Area (referred to as the "OfTI Marine Licence").
  - Marine Licence for two additional distributed OSPs – Licence Number 06347/17/1 – consent under the Marine (Scotland) Act 2010 & Marine and Coastal Access Act 2009, Part 4 marine licensing for marine renewables construction, operation and maintenance works and the deposit of substances or objects in the Scottish Marine Area and the United Kingdom Marine Licensing Area (referred to as the "OSP Marine Licence").

Executive Summary

The Moray East Offshore Wind Farm is being developed by Moray East, a company owned by EDF Renewables (EDPR) by Diamond Generating Europe (DGE) and by Engie. This Marine Pollution Contingency Plan (MPCP) has been developed in order to provide a framework for responding to releases of oil and/or chemicals throughout the construction and operation of the Development (Moray East Offshore Wind Farm and associated Offshore Transmission Infrastructure, OfTI). The Plan has also been developed in order to comply with the MPCP conditions (condition 3.1.12 of the Telford, Stevenson and MacColl offshore wind farms Marine Licences; consent condition 3.1.12 of the OfTI Marine Licence; and consent condition 3.2.1.8 of the Offshore Substation Platform (OSP) Marine Licence); and the Environmental Management Plan (EMP) conditions: condition 14 of the Section 36 Consents for the Telford, Stevenson and MacColl offshore wind farms (Section 36 Consents), condition 3.2.1.2 of the OfTI Marine Licence and condition 3.2.1.2 of the OSP Marine Licence).

The MPCP has been prepared to provide the overarching framework for pollution prevention measures and contingency plans during the construction and operation of the Development; to aid Moray East in meeting its own environmental objectives; and to clarify the duties of the Principal Contractor and Contractors.

The MPCP is divided into 3 parts. Section 1-5, which detail the project outline and leadership, Section 6-8 which provide the emergency response procedures and Sections 9-10 which provide supplementary information which will support various aspects of incident planning and/or response.

In the event of an incident, please navigate directly to Section 6.

1 Introduction

1.1 Overview

The Moray East site is being developed by Moray East, a company owned by EDP Renewables (EDPR), by Diamond Generating Europe and Engie. Moray East was awarded the rights to develop offshore wind in the outer Moray Firth as a development partner of The Crown Estate as part of the Third Round of Offshore Wind Licensing.

This document is the Moray East Marine Pollution Contingency Plan (MPCP). The document draws information from industry standards and best practices, as well as providing guidance in the event of a pollution incident.

This document has two primary purposes;

- To provide information on the Moray East system for managing and reducing the risk of pollution incidents as a result of the Development.
- To outline procedures that will be followed in the event of a pollution incident.

This MPCP has been prepared in compliance with the following consent conditions.

MPCP conditions:

1. Condition 3.1.12 of the Wind Farm Marine Licences;
2. Consent condition 3.1.12 of Offshore Transmission Infrastructure (OfTI) Marine Licence; and
3. Consent condition 3.2.1.8 of the Offshore Substation Platform (OSP) Marine Licence.

Environmental Management Plan (EMP) conditions:

1. Condition 14 of the Section 36 Consents;
2. Condition 3.2.1.2 of the OfTI Marine Licence; and
3. Condition 3.2.1.2 of the OSP Marine Licence.

The MPCP has been prepared with three aims:

- Provide the overarching framework for pollution prevention measures and contingency plans during the construction and operation of the Telford, Stevenson and MacColl Offshore Wind Farms (which will be developed as a single wind farm - the Moray East Offshore Wind Farm) and Offshore Transmission Infrastructure (OfTI) (together the Moray East Offshore Wind Farm and OfTI are referred to as the Development);
- Aid Moray East in meeting its own environmental objectives; and
- Set out the duties of the Principal Contractor and Contractors.

It provides practical guidance to those involved in the Development - Moray East personnel, the Principal Contractor, Contractors, and the Ecological / Environmental Clerk of Works (ECoW) - on the prevention and management of potential pollution events associated with the construction and operation of Development. It also serves to provide information to Marine Scotland and stakeholders, of pollution prevention and contingency plans that will be implemented for the Development.

In doing so, it covers (in line with the requirements of the Wind Farm Section 36 Consents and Marine Licences and OfTI Licences conditions, industry standards and good practice) the following:

- The roles and responsibilities of key personnel (including chain of command);
- Pollution prevention measures and contingency plans;

- The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders (including, but not limited to, Scottish Natural Heritage (SNH)[1], Scottish Environmental Protection Agency (SEPA), Royal Society for the Protection of Birds (RSPB) Scotland, Maritime and Coastguard Agency (MCA) and Northern Lighthouse Board (NLB) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

IN THE EVENT OF AN INCIDENT, PLEASE PROCEED DIRECTLY TO SECTION 6 OF THIS DOCUMENT

All parties involved in the Development must, as a minimum, comply, with the measures and procedures presented in this MPCP. Compliance is verified by Moray East using a series of performance monitoring measures (KPIs, Audits, Inspections etc.), and noncompliance is addressed through its improvement management system (tracked, formal actions that address particular issues).

The MPCP is part of Moray East's Environment Management System (EMS) and is one of the 'other' types of documents as illustrated below:

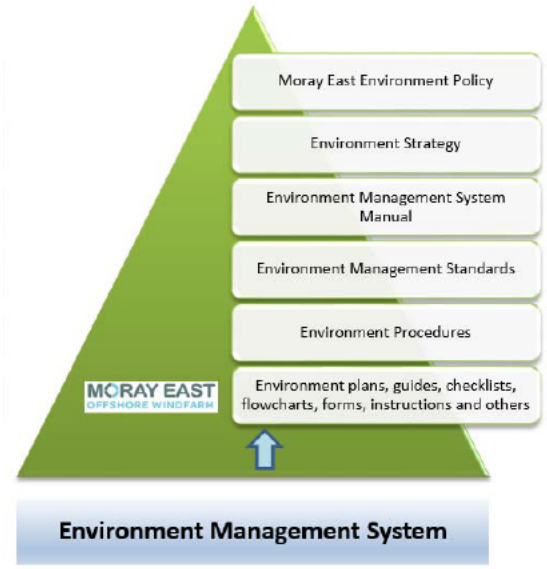

Figure 1.1: Environment Management System

1.2 Scope of Application

The MPCP applies to all construction activities required to be undertaken before the final commissioning of the Development and all activities required during the operational lifespan of the Development, from the final commissioning of the Development until the cessation of electricity generation.

Decommissioning is outwith the scope of the document and will be dealt with as part of a separate process that would include the creation of a new MPCP and associated consultations.

[1] Although the Joint Nature Conservation Committee (JNCC) are named as consultee within the relevant MPCP conditions, Moray East has been advised that the offshore renewable energy casework responsibility has been delegated from JNCC to SNH from 1st April 2017

This MPCP applies to those representing Moray East (whether in its role as licensee, client or other entity), the Principal Contractor and all other contractors involved.

2 Structure and References

After the introduction, references and context sections, the MPCP structure, and all the information contained, is based on a standard management cycle as shown in Figure 2.1 below:

Figure 2.1: Document Structure

Each section of the main document represents a part of the management cycle and includes information as set out in the table below:

Table 2.1: Document Structure

Document Structure Overview		
Section	**Section Title**	**Details**
5	Leadership	Provides information about: • Environment policy, • Management commitment and responsibility • Ownership of the MPCP
6	INCIDENT RESPONSE – Planning	Provides information about: • Environmental objectives • Risk Assessment for Marine Pollution
7	INCIDENT RESPONSE – Support	Provides information about: • Resources: staff and contractors • Competence and training • Awareness • Communication
8	INCIDENT RESPONSE – Operation	Provides information about: • Spill classification • Spill response and actions • Spill notifications

Document Structure Overview		
Section	**Section Title**	**Details**
9	Performance Evaluation	Provides information about: • Reporting and KPIs • Monitoring and measurement • Audit • Analysis and evaluation • Management review
10	Improvement	Provides information about: • Non-conformity and corrective action • Continual improvement

Throughout this MPCP guidance and best practice has been included within blue shaded boxes. These are primarily to provide context and background, rather than providing instruction for actions to be taken. Where the information provided within each ox is applicable to a certain section, reference is made in the body text of this document to the relevant box.

2.1 Interfaces with other documents

The sections below illustrate the indicative relationship between the MPCP, other Moray East documents and external documents e.g. those of the Principal Contractor or Government Agency.

2.1.1 Moray East Offshore Documents

The MPCP is one of a number of documents produced by Moray East to meet the requirement of the Section 36 Consents and the OfTI Licences. Although a stand-alone document, it is linked to the Moray East EMP, which sets out the environment management framework and contains a lot of the details aimed at successfully preventing pollution. It is also linked to the Emergency Response Cooperation Plan (ERCoP) that is shared with the MCA.

2.1.2 Principal Contractor Documents

Once the Principal Contractor is appointed they will be responsible for producing detailed management plans that will be required to be compliant with Moray East's overarching EMP and associated environmental management documents. This section shall be updated to summarise the relationship between the MPCP and the Principal Contractor's MPCP and supporting documents.

2.1.3 UK National Contingency Plan for Responses to Marine Pollution from Shipping and Offshore Installations

The UK National Contingency Plan (NCP) for Marine Pollution from Shipping and Offshore Installations describes the processes at a national level for responding to a spill of oil or other hazardous materials at sea in UK waters. It is designed primarily for spills of national significance comprising Tier 2 or Tier 3 pollution incidents. The NCP involves numerous Local Government and private industry organisations.

It is noted that the definition of an 'offshore installation' within the NCP specifically refers to offshore oil and gas, gas storage or carbon, capture and storage installations. However, it is considered the core reference document for setting out the procedures and processes involved in pollution response and recovery, prior to, and after a marine pollution incident and would be implemented in the event of an incident from windfarm infrastructure that required a Tier 2 or Tier 3 response.

It is noted that that activation of the NCP is not the responsibility of an offshore operator. It is the responsibility of the MCA and in the event of a significant release from a vessel of offshore installation,

the primary responder shall report the incident to the nearest MCA Coastguard Operations Centre (CGOC)by telephone. It is the CGOC's responsibility to contact the vessel or offshore installation to determine details of the incident.

The CGOC would then initiate any search and rescue operations that may be required by way of response. The CGOC would notify the MCA duty Counter Pollution and Salvage Office (CPSO), MCA Headquarters and the Marine Accident Investigation Branch (MAIB) of any pollution incident or risk of significant pollution. The CPSO decides if a regional or national response is required, as criteria for triggering the different scales of response are not provided in the NCP.

In an instance where either a regional or national response is activated, the MCA may deploy several response Units. These Units, if deployed, will act to work with and support the spill response actions, including the Emergency Response Team (ERT) and Marine Coordination Centre (MCC), implemented by Moray East (more detail provided in Section 7.1 below).

2.1.4 Industry plans

Depending on the nature of an incident, the Moray East MPCP may be required to interface with one or a number of other industry plans. These may include one or more of the following:

- Shipboard Oil Pollution Emergency Plans (SOPEPs) / equivalent vessel-specific spill plan for each vessel. These plans are a requirement under the MARPOL Convention and would be implemented in the event of any release from a vessel.
- Port and Harbour Oil Spill Contingency Plans (OSCPs). These may be required if any release causes oil or a chemical to drift into a port or harbour's jurisdiction. It would be expected that a Moray East MCC would liaise and coordinate a response with a port or harbour plan where appropriate.
- Bridging / interface documents between Moray East and any third-party specialist contractors mobilised in an incident response.
- Other windfarm or oil and gas operators in the vicinity of the Moray East development. This is likely to include the Beatrice Offshore Windfarm.

3 Definition of Terms

The following terms and abbreviations are used in this document:

Table 3.1: Terms and Abbreviations

Term/Abbreviation	Detail
AEGL	Acute Exposure Guideline Levels
AFS	Anti-fouling system
ALARP	As low as is reasonably practical
BEIS	Department for Business Energy and Industrial Strategy
BoD	Basis of Design
BWM	Ballast water management (also refers to ballast sediment where appropriate)
CDM	Construction (Design and Management) Regulations
CGOC	Coastguard Operations Centre
CMS	Construction Method Statement
Consent Conditions	The terms that are imposed on Moray East under the S36 or Marine Licence Consents that must be fulfilled throughout the period that the Consent is valid.
Contractor	Organisation working on site.
Corrective action	Action to eliminate the cause of a detected non-conformity
CoP	Construction Programme
COSHH	Control of Substances Hazardous to Health
Dangerous goods	Solids, liquids, or gases that can harm people, other living organisms, property, or the environment
Development	The Wind Farm and the OfTI.
DfT	Department for Transport
DPR	Daily Progress Report
ECoW	Ecological / Environmental Clerk of Works
EDPR UK	EDPR UK Limited
EMP	Environmental Management Plan
EMS	Environmental Management System
Environment	Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation
Environmental aspect	Element of an organisation's activities, products or services that can interact with the environment
Environmental impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental incident	An undesired event with possible significant environmental impact(s) as a result
Environmental Policy	Moray East Environmental Management Policy
ERP	Emergency Response Plan
ERPG	Emergency Response Planning Guidelines

Term/Abbreviation	Detail
ERT	Emergency Response Team
FLO	Fisheries Liaison Officer
FOB	Forward Operating Bases
GESAMP	Group of Experts on Scientific Aspects of Marine Environmental Protection
GRT	Gross Registered Tonnage
HAZID	Hazard Identification Workshop
HSE	Health and Safety Executive ***or***
HSE	Health Safety and Environment
HSSE	Health, Safety, Security & Environment
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
IDLH	Immediately Dangerous to Life or Health
IFO	Intermediate Fuel Oil
IGC	International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
IMO	International Maritime Organisation.
IMDG	International Maritime Dangerous Goods
IMSBC	International Maritime Solid Bulk Cargoes
ISO	International Organisation for Standardisation
Inter-array cables	The electrical cables that connect the WTGs to the Distributed OSPs
Induction	Formal introduction to the Development and associated safety, health and environmental requirements.
JNCC	Joint Nature Conservation Committee
KPI	Key Performance Indicator
Landfall site	The point above MHWS near Inverboyndie, where the OfTI cable connects to the OnTI.
MS-LOT	The Scottish Ministers
Licensee	Moray Offshore Wind Farm (East) Limited
Marine Coordination	The management and surveillance of people, vessels and offshore structures to ensure the safe preparation and execution of offshore activities, in order to minimise the probability of an incident, and to provide effective response if an incident does occur
MARPOL 73/78	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
MFRAG	Moray Firth Regional Advisory Group
MGO	Marine Gas Oil
MHWS	Mean High Water Springs
MCA	Maritime and Coastguard Agency
MCC	Marine Coordination Centre
Met mast	Meteorological Mast

Term/Abbreviation	Detail
MGN	Marine Guidance Note
MINNS	Marine invasive non-native species
MMO	Marine Mammal Observer
Moray East	Moray Offshore Wind Farm (East) Limited
Moray East site	Area of the Telford, Stevenson and MacColl Offshore Wind Farm which together will be developed as Moray East Offshore Wind Farm
MPA	Marine Protected Area
MPCP	Marine Pollution Contingency Plan
MSDS	Material Safety Data Sheet
MSN	Merchant Shipping Notice
NLB	Northern Lighthouse Board
O&M	Operations and Maintenance
OfTI	The Offshore Transmission Infrastructure The OfTI includes the transmission cable required to connect the Wind Farm to the OnTI. This covers the Distributed OSPs and the cable route from the Distributed OSPs to the Mean High Water Springs (MHWS) at the landfall near Inverboyndie
OMM	Offshore Met Mast
OSP	Offshore Substation Platform
Distributed OSP	Distributed OSP means an offshore substation platform (OSP) which is a standalone modular unit that utilises the same substructure and foundation design as a wind turbine generator.
On site	On site means within the boundaries of the Wind Farm and OfTI as defined within the Section 36 Consent and the Marine Licences.
PAM	Passive Acoustic Monitoring
PC	Principal Contractor
PON	Petroleum Operations Notice
Principal Contractor	The organisation appointed for the management of the construction phase under the CDM Regulations
PM	Project Manager
QHSE	Quality, Health, Safety and Environment
RA	Risk Assessment
RAMS	Risk Assessments Method Statement
ROV	Remotely operated vehicle
RPE	Respiratory Protective Equipment
RSPB Scotland	Royal Society for the Protection of Birds, Scotland
SAC	Special Area of Conservation
SCBA	Self-Contained Breathing Apparatus
SEPA	Scottish Environmental Protection Agency
SNH	Scottish Natural Heritage

Term/Abbreviation	Detail
SOPEP	Shipboard Oil Pollution Prevention Plan
SPA	Special Protection Area, protected sites classified in accordance with Article 4 of the EC Birds Directive
SSEG	Scottish Standing Environment Group
SSSI	Site of Special Scientific Interest, areas of land and water designated under the Nature Conservation (Scotland) Act 2004
Subcontractor	Subcontractors to the Principal Contractor or Contractors
TEEL	Temporary Emergency Exposure Limits
Tier	Level of spill classification
Toolbox talk	A short presentation given on an aspect of environmental management
Training records	Records to demonstrate that required training has been provided
UKHO	United Kingdom Hydrographic Office
Wind Farm	The offshore array development as assessed in the ES including wind turbines, their foundations, inter-array cabling and meteorological mast
Works	All items to be installed as part of the Development
WTG	Wind Turbine Generator

4 Moray East Development Details

This section details the scope of this MPCP and provides the context and background within which the MPCP is implemented.

4.1 Description

The Moray East site is located on the Smith Bank in the outer Moray Firth. It is located 12 nautical miles (nm) (approximately 22km) from the Caithness Coast, covers an area of 281 nm^2 or 520 km^2, and ranges from 37m - 57m in water depth.

It is being developed by Moray East, a company owned by EDP Renewables (EDPR), Diamond Generating Europe (DGE) and Engie. Moray East was awarded the rights to develop offshore wind in the outer Moray Firth as a development partner of The Crown Estate as part of the Third Round of Offshore Wind Licensing.

Moray East has undertaken the development of the Moray East site first, because of spatial constraints relating to the Moray West site. In the course of development, the Moray East site was further split into three wind farm sites as listed and illustrated below:

- Telford Offshore Wind Farm
- Stevenson Offshore Wind Farm
- MacColl Offshore Wind Farm

Moray East's intention is to develop and construct the Moray East site as a single offshore wind farm (the Moray East Offshore Wind Farm) with a transmission entry capacity (TEC) of 900 MW and generating capacity of 950 MW. The WTGs will be spread across the Telford, Stevenson and MacColl areas.

A Marine Licence application was also submitted to Marine Scotland for the offshore elements of the transmission infrastructure (OfTI) (OSP(s), OSP interconnector cables and offshore export cables) in April 2014. The Marine Licence was granted in September 2014. An application for a Marine Licence for two additional Distributed OSPs was submitted in May 2017 and awarded in September 2017.

It is noted that the Beatrice Offshore Wind Farm (owned by Beatrice Offshore Windfarm Limited (BOWL)) is located adjacent to Moray East. A response will be coordinated in collaboration with BOWL if appropriate.

Figure 4-1: Geographical Location of the Development (Moray East site and OfTI Corridor)

4.2 Vessels

Moray East will require that all construction and operational vessels meet the relevant, required, recognised standards and will comply with the relevant international maritime rules (as adopted by the relevant flag state) and regulations.

Independent vessel audits will be carried out on both construction and operational vessels as necessary to ensure standards are adhered to and maintained for a vessel's defined role within the Development.

Moray East will ensure that all construction and operational vessels will comply with the procedures and requirements set out in relevant Consent Plans such as this MPCP, the EMP, the Navigational Safety Plan (NSP) and the Vessel Management Plan (VMP). It will also be responsible for notifying and updating Marine Scotland on vessels and vessel details.

A list of vessels that may be involved in construction and/or operation will be provided within the VMP (where available at this stage).

4.3 Offshore Renewables Energy Installations

4.3.1 Wind Turbines

Construction of 100 wind turbine generators (WTGs), will be installed. The WTGs may require the use of lubricants, grease, grout (BASF Master Flow 9800 or alternative) and the application of other chemical treatments in order to install each unit. This presents the potential of a release of these products to sea due to either seepage from the WTG itself or accidental spills when applying such products.

WTGs comprise a series or moving parts which are likely to require periodic lubrication, greasing, painting, and the application of other chemical treatments during operation. Whilst units would be designed to retain spilled fluids within the nacelle and tower, the possibility of lubricating oils and chemicals being spilled to sea through either seepage from individual WTG units or through routine maintenance activities involving the application of chemical or oil-based treatments remains. WTG units may also be involved in allisions (collision with fixed a structure) with vessels, which may lead to discharges to sea from both the WTG unit and the vessel involved. The possibility of structural failure of a WTG or its supporting foundation is very low; however, in such instances, a release of chemical of hydrocarbon pollutants to sea may occur.

4.3.2 Offshore Substation Platforms

The offshore substation platforms of Moray East comprise two decks atop of a jacket substructure secured to the seabed. The construction of three OSPs is likely to involve the use of coolants, lubricants, greases, paints, grouts and the application of other chemical treatments. During construction activities, there is the potential for such substances to be spilled to sea through seepages or leaks from the OSPs or through accidental releases when applying the products.

OSPs may require routine maintenance activities including replacement of coolant fluids, lubricating, greasing, painting, grouting and the application of other chemical treatments during the operational phase. Potential scenarios leading to a pollution incident to sea may include seepages or leaks from the platform components or from accidental releases when applying such substances.

4.3.3 Offshore Met Mast

In September 2014, a Marine Licence was granted for the installation of an offshore meteorological mast (met mast) within the Moray East site. The works included the installation of a berm platform, rock-filled geogrid mattresses, a gravity base / monopile structure supporting a steel lattice structure.

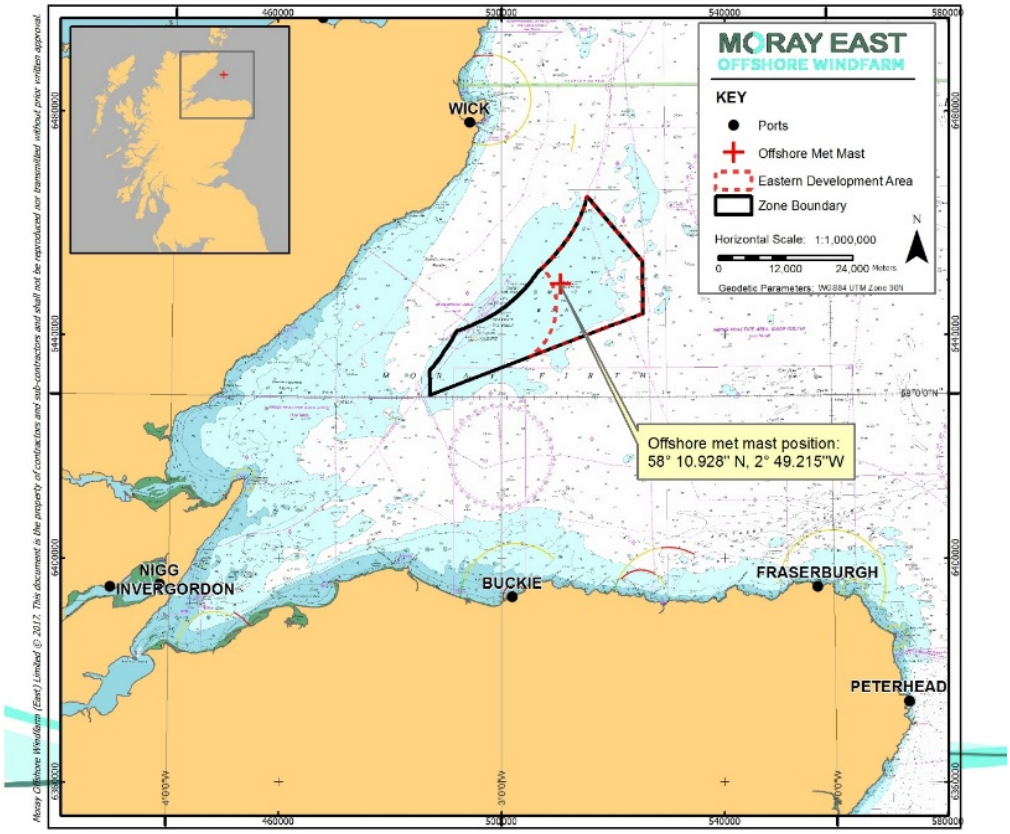

Figure 4.2: Offshore Met Mast

Construction works commenced under licence in August 2014 and completion of construction was confirmed December 2016.

Although within the Moray East site, it is operated under a separate Marine Licence and has its own arrangements for the environmental management, pollution prevention and contingency planning.

4.3.4 Construction Methods

WTGs will be pre-assembled into the tower, nacelle and blades at the onshore laydown area in port. Prior to installation of these three components, inspections and cleaning of the pre-installed WTG foundations will be undertaken to ensure a smooth connection between the transition piece and the foundation. Installation of the pre-assembled tower, nacelle and blades will occur at sea using the main crane of a jack-up vessel. Construction methodology is provided in more detail within the Moray East Construction Programme (CoP) and Construction Method Statement (CMS) document.

The OSPs will be constructed following a similar method to the WTGs, with the topside facility being pre-assembled onshore before being transported to the offshore site by barge. Jacket substructure foundations will have been previously installed for the topside unit to affix to once transported to site. Further details on the methods of OSP construction are outlined in the CoP and CMS document.

Moray East will require that all possible good working practices are applied by the key contractors and sub-contractors throughout the construction process in seeking to minimise the risks to personnel, other sea users and the environment.

In the context of the construction of the Development this has been taken to apply to those standards, guidance or examples of good practice working that will act to:

- Manage the construction process so as to avoid harm to construction personnel or third parties; and

- Ensure effects on the environment and other users of the marine environment are minimised as far as reasonably practicable (and in line with the commitments made by Moray East or the requirements of the Moray East Offshore Wind Farm Consents and OfTI Licences).

Table 4.1 Offshore Wind Construction Good Working (or Best Practice) Guidance

Produced by	Title	Scope
The G9, published through the Energy Institute	Working at height in the offshore wind industry (published December 2014)	Covering design, construction, commissioning, and operation; designed to reduce the need for work at height; topic guidance sheets, covering common hazards, personal protective equipment, training and competence, fitness requirements, and the responsibilities of those procuring, supervising and undertaking work; with supporting information, such as regulatory requirements in selected EU countries and technical standards.
	The safe management of small service vessels used in the offshore wind industry (published December 2014)	Cover working with vessels that have a gross tonnage of less than 500, such as crew transfer vessels, guard vessels, survey vessels and construction support vessels. The guidelines cover audit and inspection regimes for wind farm service vessels, operating procedures for routine marine operations, training and competence of crew and passengers, and safety equipment.
The Crown Estate	Sharing lessons learned and good practice in offshore transmission (published June 2014)	Presents the findings from a study commissioned to understand experience and lessons learned in the development, construction and operation of offshore transmission infrastructure.
	Construction vessel guideline for the offshore renewables industry (Published September 2014)	This guideline is designed to follow on from Vessel safety guide 'Guidance for offshore renewable energy developers (Vessel safety guide)' published by RenewableUK in January 2012 and is intended to assist by providing guidance to developers and the supply chain for the construction of an UK offshore wind farm
Renewables UK	Offshore Wind and Marine Energy H&S Guidelines (published March 2014)	H&S guidelines for the offshore wind sector covering all phases of development and identifying risks and significant safety hazards and activities.
	Safety and Emergency Response in Offshore Wind (Published November 2011)	Guidance on managing Search and Rescue resources within the UK Search and Rescue Region in relation to the development of offshore renewable development.
	Safety Circular: Notices to Mariners. Guidance for Offshore Wind & Marine Projects (Published 2013)	This Circular provides a short summary of the accepted scope and format for issuing Notices to Mariners (NtMs).
	Incident Response: Offshore Wind and Marine Projects (Published October 2012)	This circular sets out a reminder and simplified protocol for managing the immediate stages following an actual or potential major incident where 3rd party assistance may be required.
	FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison (Published January 2014)	Sets out best practice guidance on liaison between the offshore wind industry and the fishing industry.

Produced by	Title	Scope
	H&S First Aid Needs Assessment (Published December 2013)	Provide basic information on how duty holders can assess the provision of adequate and appropriate equipment, facilities and personnel to ensure employees receive proper attention if they are injured or taken ill at work.
	Vessel Safety Guide Guidance for Offshore Renewable Energy Developers (Published April 2012)	Provides guidance and insight on the selection of vessels through all phases of wind farm development.
MCA	MGN 543 (M+F) Safety of Navigation: Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response.	Highlights issues that need to be taken into consideration when assessing the impact on navigational safety and emergency response (search and rescue, salvage and towing, and counter pollution) caused by offshore renewable energy installation developments. It applies to proposals in United Kingdom internal waters, Territorial Sea and Exclusive Economic Zone.

Moray East will ensure a range of project management procedures are in place during the construction process that will, alongside the relevant approved consent plans, act to ensure the safe, compliant installation of the major components. The environmental management measures that will be applied by Moray East and the key contractors and sub-contractors incorporate a variety of good working practice and legislative standards in relation to the control of waste, dropped objects, pollution prevention, chemical usage, control of invasive non-native species, etc.

Environmental management measures are set out in the EMP which will be applied in undertaking the proposed construction works set out in the CoP and CMS document.

In addition to the EMP and VMP, this MPCP outlines the response to pollution incidents, including an assessment of risk commensurate to potential pollution scenarios, measures on avoiding releases and the actions required to manage an effective response should a pollution incident occur.

Any matters set out in the Moray East ES 2012 and Moray East Modified TI ES 2014 (together referred to as the ESs) in relation to the mitigation and management of construction will be incorporated into the CMS. Specific good working practices are outlined in detail within the CMS. For further detail on the construction methodology and programme, the reader should refer to the CoP and CMS document.

4.3.5 Operations and Maintenance Methods

Routine maintenance and emergency maintenance will be required during the operational phase of Development. Any planned or emergency maintenance or repair works shall be undertaken in accordance with industry best practice and adhere to the Construction (Design and Management) Regulations 2015 (CDM).

4.4 Legal Context

A range of environmental related legislation applies to the Development covering:

- General consenting;
- Environmental assessment;
- Waste and discharges;

- Decommissioning;
- Environmental protection;
- Physical presence; and
- Pollution control.

Consent / Licence compliance and wider environmental legal compliance are discussed in Section 9 below. A summary table explaining Consent and Licence conditions is presented in the next section.

4.4.1 Section 36 Consents and Marine Licences

The main conditions from the Moray East Offshore Wind Farm Consents and OfTI Licences are shown in Table 4.2 below (which also indicates which section of the MPCP addresses them).

Table 4.2 Summary of main conditions included in the Moray East Offshore Wind Farm Consents and OfTI Licences

Consent Document	Condition Reference	Summary of Condition
Marine Pollution Contingency Plan (MPCP)		
Telford, Stevenson and MacColl Offshore Wind Farms Marine Licences	3.1.12	The Licensee must, no later than 3 months prior to the Commencement of the Works, submit in writing to the Licensing Authority for their written approval, a MPCP. The MPCP must make provision in respect of spills and collision incidents occurring during the construction and operation of the Works and where such spills or collisions occur then the MPCP must be adhered to in full. The MPCP must take into account existing plans for all operations, including offshore installations that may have an influence on the MPCP. Practices used to refuel vessels at sea must conform to industry standards and to relevant legislation. The MPCP must set out how any oil leaks within the structure are to be remedied and that such relevant repairs are required to be undertaken without undue delay. Commencement of the Works must not occur until the Licensing Authority has given its written approval to the MPCP. The Works must be construction and operated in accordance with the MPCP.
OfTI Marine Licence	3.1.12	
OSP Marine Licence	3.2.1.8	
Environmental Management Plan (EMP)		
Section 36 Consents	14	The Company must, no later than 6 months prior to the Commencement of the Development, submit an Environmental Management Plan ("EMP"), in writing, to the Scottish Ministers for their written approval. This must include pollution prevention measures and contingency plans;
OfTI Marine Licence	3.2.1.2	
OSP Marine Licence	3.2.1.2	

4.5 Construction (Design and Management) Regulations

The CDM Regulations apply to the Development works. Although these are not environmental regulations, they have a profound influence on how construction is organised and therefore have an influence on environmental performance.

In addition to being the Licensee, under CDM, Moray East is the Client (as defined in the Regulations) and will also fulfil the duties of Principal Designer (as defined in the Regulations), and Principal Contractor (as defined in the Regulations). A team (separate from the Client and Principal Designer personnel) supported by organisational governance will deliver the Principal Contractor role (the term Principal Contractor is used throughout the document).

5 Leadership and Commitment

This section presents the details considering policy, leadership and commitment relevant to the MPCP.

Figure 5.1: Leadership

5.1 Policy

The Moray East Environment Policy applies to all work on the Development and is the governing policy for this document. It is included in Appendix I.

5.2 Leadership

Leadership is the defining element of the Moray East EMS and is essential to the successful implementation of the MPCP and the prevention of pollution events.

Leadership and management overlap but are not the same thing. Staff in senior management positions have a significant role to play, however it is expected that every individual demonstrate environmental leadership in the context of their role.

All involved are empowered and expected to raise environmental concerns about the works or highlight opportunities for improvement.

5.3 Responsibilities for Management of the Plan

The responsibilities for the production and maintenance of the MPCP are presented in Table 5.1 below.

Table 5.1: Management Responsibilities

Role	Responsibility
Moray East Project Director	Approval
Moray East Construction Director	Approval
Moray East Head of Development	Approval

Role	Responsibility
Moray East QHSSE Manager	Writing
Moray East Offshore Consents Manager	Review
Moray East Ecological / Environmental Clerk of Works (ECoW)	Review

This document is live and updates will be made and new revisions issued as required (see Section 9 for how this is managed).

5.4 HSE Charter

Moray East has prepared a Health Safety and Environment Charter, to which all staff commit. It summarises the company's core HSE values and describes the behaviours it expects all to show. This is included in Appendix II.

The Principal Contractor and Contractors shall be required to be aware of the Moray East HSE commitments and sign an acknowledgement of compliance with the Moray East HSE Charter.

5.5 Empowered to 'Stop the Job'

In line with the policy, the HSE Charter and industry practice, all working on the Development (staff and contractor) are empowered to 'stop the job', if they believe there is an immediate risk of harm to people or the environment. This will contribute to ongoing pollution prevention efforts.

5.6 HSE Observations

As another demonstration of leadership, Moray East promotes the use of HSE observation cards on site. They are small, easily completed cards that may be used by anyone, by ticking some predefined boxes, or describing a problem that has been observed. They are given to the Principal Contractor for assessment, review, action and trend analysis.

This is to encourage a culture of openness and proactivity and ensure that conditions and acts which could cause harm to people or the environment are understood and rectified, and that positive behaviours are recognised.

6 INCIDENT RESPONSE – Planning

Figure 6.1: Planning

The emergency response procedures contained in this document have been developed to respond to **TIER 1 INCIDENTS (as defined in Table 6.1).** Tier 2 and Tier 3 incidents response falls outside the scope of this MPCP, however references to Tier 2 and Tier 3 incidents response have been included to assist the escalation and de-escalation processes should the demands of an incident response exceed Tier 1 capability.

Within the scope of this document, a Tier 1 incident may include scenarios such as small spills to vessel decks / barges or other similar scenarios or minimal releases to water that can be rapidly managed by on-site staff. If there is any level of uncertainty regarding the ability of Moray East personnel to respond, OR A RELEASE DURING HOURS OF DARKNESS, the response will be escalated to Tier 2 and professional contractors will be mobilised.

Moray East may still have overall responsibility for managing incident response if it escalates to Tier 2 or Tier 3. However, it is acknowledged that external contractors and government bodies (e.g. MCA) may assist / direct certain aspects of the response.

This section summarises Moray East's environmental objectives and details a risk assessment of potential pollutant incidents.

6.1 Objectives

Based on a combination of the Environment Policy, the organisational context, the Ess, and the output of hazard identification processes, Moray East has established the following:

- Zero spills to sea;
- Zero high potential Incidents;

- All personnel working on the Development shall have a risk assessment for every task, which addresses environmental risk; and
- Compliance with all applicable legislation, licences and conditions.

This plan covers response to Tier 1 incidents only, if an incident should be classified as Tier 2 on notification or escalate to a Tier 2 or Tier 3, it is recommended that additional resources are mobilised through specialist contractors.

6.2 Marine Pollution Risk Assessment

6.2.1 Likelihood and Consequences

This section identifies the type and size of potential oil and chemical spills, summarises what arrangements are in place, and describes the residual risk.

The assessment of the risks presented by a release of oil or chemicals requires the answers to two questions to be analysed:

1. What is the likelihood of a spill occurring?
2. What are the probable consequences?

To address the likelihood of a release, it is necessary to examine the types of incidents that have led to releases in the past, their frequency and the types and quantities of oil and / or chemicals released. With regard to activities during the construction and operation of the Development, there is a greater risk of spills occurring during bunkering (vessel refuelling) operations, multiple vessels operating around turbine construction and/or operation and as a result of operational incidents during both construction and operation.

The likely consequences of an incident vary on the location and circumstances of the release, additionally many factors can affect the fate and trajectory of a spilled oil or chemical and level of clean-up required. These include, but are not limited to:

- Number and type of vessel calls or vessels passing;
- Type and volume of oil carried;
- Expected frequency and size of spill;
- Identify areas with a high risk of spills;
- Volume spilled;
- Physical and chemical properties;
- Incident location and nearby sensitivities;
- Weather and sea state; and
- Hydrographic conditions.

An important factor in risk assessment and associated preparedness is that the volume of oil and/or chemical released should not be used as the sole indicator of severity. Every factor listed above should be considered to determine the risk of an incident and the level of response required.

Box 6-1

Potential chemical spills in wind farm construction and operations are generally considered to be a lower risk than hydrocarbon spills, as chemicals *tend* to be stored in smaller volumes and are often more soluble in water meaning they dilute rapidly. However, chemical reactivity depending on what mixing may occur is a factor that requires consideration in estimating both the severity of an incident and the associated clean-up required.

A spill from construction or operational activities of Moray East may result in impacts to sensitive receptors including designated sites for nature conservation within the Moray Firth. The designated sites identified as potential receptors of impacts from a release are detailed in Section 6.2.4 below. Further information on the priority and qualifying features of each ecology designation are available from the JNCC and SNH websites (www.nature.scot). The majority of these designated sites are located around coastlines and designated for their biological and /or geological assets. The trajectory of a spill could impact upon the health of the ecosystems for which sites have been designated.

6.2.2 Spill characterisation

When assessing the quantity or classification of spills, the MCA has a three-tiered approach (with which this MPCP aligns). The three tiers define the resources available to respond to the incident, rather than the scale of the incident itself (see Section 8.2.1 for differences between oil and chemical spill classification).

Table 6.1 Spill classification

Tier 1	
Small oil spills, or those which can be quickly and easily cleaned up using on-site resources or local contractors	
○ Oil is contained within the incident site; ○ Spill occurs within immediate site proximity; ○ Daytime release; and ○ Able to respond to the spill immediately.	○ Source of spill has been contained; ○ Oil is evaporating quickly and no danger of explosive vapours (e.g. diesel); ○ Spill likely to naturally disperse; and ○ No media interest.
Tier 2	
Oil spills which pose a threat of significant pollution resulting in the mobilisation of external oil spill response resources on a regional level	
○ Danger of fire or explosion or Possible continuous release; ○ Concentrated oil accumulating in close proximity to the site / vessel, etc.; ○ Spill occurs within the vicinity of the operational site; and ○ A release during hours of darkness.	○ Not able to respond to the spill immediately; ○ Potential to impact other installations; ○ Tier 1 resources overwhelmed, requiring additional Tier 2 regional resources; ○ Potential impact to sensitive areas and/or local communities; and ○ Local/ national media attention.

Tier 3	
Catastrophic oil spills which pose a threat of significant pollution resulting in the mobilisation of external oil spill response resources on a national/ international level	
○ Actual or potentially serious threat to life, property, industry; ○ Major spill beyond site vicinity; and ○ Significant shoreline impact possible.	○ Tier 2 resources overwhelmed, requiring international Tier 3 resources; ○ Oil migrating towards neighbouring countries; ○ Significant impact on local communities; and ○ International media attention.

It may be the case that Tier 2 resources require mobilisation where a volume spilled typically associated with a Tier 1 spill affected multiple turbines or where sensitive resources are at risk. Similarly, a Tier 3 incident may be declared where Tier 2 arrangements may be largely absent or overwhelmed, highly sensitive areas threatened, or highly specialised strategies being required that are not available locally.

The majority of potential spills on Moray East are likely to be Tier 1 and may arise from small operational spillages.

However, due to vessel traffic and the requirement for bunkering, there is a risk of Tier 2 or 3 incidents occurring.

6.2.3 Spill Scenarios

This section identifies the likely spill scenarios that may occur with the construction and operation of the Development. Based on available information on vessel types, it is expected that the main oil types are likely to be Marine Gas Oil (MGO) or Intermediate Fuel Oil (IFO) used to fuel construction and O&M vessels. The quantities of MGO and IFO will be limited to the bunkering capabilities of the vessels. The potential most severe spill scenario associated with the operations may be a complete loss of fuel inventory from two vessels as a result of collision, or where a passing vessel collides with a wind farm or OfTI vessel or structure.

However, the plan also considers spill of lubrication, coolant and diesel oils that may be used in generators and for a range of operational purposes.

Box 6-2

A key factor in understanding spill scenarios and quantifying the associated risks is the fate and behaviour of oil and chemicals once they are released to water. Once released, oil and chemicals will undergo a number of physical and chemical changes – collectively known as weathering. Weathering can include processes such as evaporation, spreading, dissolution, dispersion, emulsification, photo-oxidation, sedimentation and biodegradation. The extent to which these occur will affect the fate and trajectory of the spilled substance and will affect the type of clean-up operation required.

Table 6.2 below provides further details on spill scenarios and associated control measures. Table 6.2 has been categorised by incident type and not potential severity.

Table 6.2: Spill Scenarios Classification

Spill Scenario	Potential Pollutant	Control Measures	Risk with measures in place	Tier
Vessel Refuelling: Loss of fuel during vessel to vessel refuelling at sea or refuelling at port **Equipment Refuelling** Loss of fuel during refuelling of equipment (on vessel or on turbine/offshore	Non-persistent Oil (Marine Gas Oil (MGO) and Diesel) Persistent Oil (Hydraulic and Lube Oils and Intermediate Fuel Oil (IFO))	Moray East and its contractors will only undertake refuelling at sea if necessary. This is likely to be restricted to vessels that have limited or no capacity to leave station to take on fuel, such as jack ups; Preparation and review of task-specific risk assessments, method statements and fuel transfer planning tools and checklists; **Refuelling of vessels or equipment offshore shall only commence and be undertaken during daylight and in good weather conditions;** Refuelling operations will be planned in advance; Fuel transfer operations will be conducted under the supervision of an appointed responsible person on board (e.g. Chief Engineer) and in accordance with each vessel's procedure and checklists; A bunker plan shall be developed and made available to relevant personnel; Before fuel transfer starts a tool-box talk will be held with all ship staff involved in the operation and the following subjects should be discussed, as a minimum: • Bunker plan, including any anticipating changes; • Risk assessment; • Individual roles and responsibilities in the process; • Emergency situations and appropriate responses; and • Bunkering checklists. Only hoses fitted with non-return valves shall be used for the offshore transfer of fuel or other fluids; Vessels over 400 GRT (Gross Registered Tonnage) will carry a SOPEP in compliance with The Merchant Shipping (Prevention of Oil Pollution) Regulations 1996; Vessels over 400 GRT will carry an Oil Record Book in compliance with The Merchant Shipping (Prevention of Oil Pollution) Regulations 1996. In the Oil Record Book particulars are entered of: • Details of fuel and oil bunker operations; • Disposal of sludge (oil residues); • Discharge overboard or disposal otherwise of machinery space bilge water;	Low	2 (vessel) 1 (equipment)

Spill Scenario	Potential Pollutant	Control Measures	Risk with measures in place	Tier
		• Condition of oil discharge monitoring and control systems; • Accidental or other exceptional discharges of oil; and • Additional operational procedures and general remarks. Appropriate training of personnel and supervision of activity; Compliance with conditions related to vessel refuelling set out in Merchant Shipping Notice (MSN) 1829 "Ship to Ship Transfer Regulations 2010/2012". Note that these regulations only apply to vessel to vessel transfer of fuel or oil, and do not apply to transfers made from vessel of an offshore or renewable energy installation. That said, 'operationally necessary' refuelling includes the fuelling of jack ups, platforms and other temporary installations as well as vessels with restricted capability to leave station to take on fuel such as dredgers, workboats operation offshore from mother-craft and accommodation vessels; The MSN 1829 Regulations state that 'Transfers of fuel to and from daughter-craft should be carried out with due regard to crew and vessel safety and with appropriate environmental safeguards'; A visual lookout will be made at all times during fuel transfer operations to verify hose integrity throughout the transfer and in order to spot any leaks immediately; All storage tanks and/or areas shall be bunded to at least 110% of the total oil storage inventory volume; Personnel shall be trained in spill prevention awareness, and in the use of spill kits; Spill kits shall be readily available for responding to any minor spills; Defined hazardous waste areas will be identified for storage of oil/oily waste. Containers will be well maintained, water-tight and secured as necessary; Regular inspection and maintenance of equipment shall be undertaken with a pre-agreed monitoring, logging and reporting procedure; The means of preventing any fuel oil from escaping into the bilges such as trays beneath oil pumps, heaters etc., special oil gutter ways etc. will be regularly inspected and drained or cleaned; and Oil pressure pipes and fuel oil pipes and fittings will be inspected regularly to ensure that leaks are detected at an early stage and rectified.		

Spill Scenario	Potential Pollutant	Control Measures	Risk with measures in place	Tier
Vessel Collision Vessel Allision	Intermediate Fuel Oil (IFO) Marine Gas Oil (MGO) (Diesel)	All vessels will comply with the measures will be set out in the NSP to prevent vessel to vessel collision and vessel to structure allision.	Low	2-3
Vessel Grounding	Intermediate Fuel Oil (IFO) Marine Gas Oil (MGO) (Diesel)	All vessels will comply with the measures will be set out in the NSP to prevent vessel stranding / grounding.	Low	2-3
Failure of Plant/Equipment OSP	Intermediate Fuel Oil (IFO) Marine Gas Oil (MGO) (Diesel)	All equipment shall be operated and maintained in good order and in accordance with legal requirements; All plant and equipment shall only be operated by adequately trained and competent personnel; All storage tanks and/or areas shall be bunded to at least 110% of the total oil storage inventory volume; Preventing any fuel oil from escaping into the bilges such as trays beneath oil pumps, heaters etc., special oil gutter ways etc. will be regularly inspected and drained or cleaned; and Oil pressure pipes and fuel oil pipes and fittings will be inspected regularly to ensure that leaks are detected at an early stage and rectified.	Low	1-2
Failure of Plant Equipment	Marine Gas Oil (MGO) (Diesel) Lube oil	Equipment shall be operated and maintained in good working order, in accordance with legal requirements; Plant and equipment shall only be operated by trained and competent personnel; Storage tanks and/or areas shall be bunded to at least 110% of the total oil storage inventory volume; The means of preventing any fuel oil from escaping into the bilges such as trays beneath oil pumps, heaters etc., special oil gutter ways etc. will be regularly inspected and drained or cleaned; and Oil pressure pipes and fuel oil pipes and fittings will be inspected regularly to ensure that leaks are detected at an early stage and rectified.	Low	1-2

Spill Scenario	Potential Pollutant	Control Measures	Risk with measures in place	Tier
Spillage During Use of Equipment	Marine Gas Oil (MGO) (Diesel) Lube oil	Preparation and review of risk assessments and method statements; Personnel shall be trained and competent in spill prevention awareness, and in the use of spill kits; Spill kits shall be made available for mopping up any minor spills at all times; The means of preventing any fuel oil from excepting into the bilges such as trays beneath oil pumps, heaters etc., special oil gutter ways etc. will be regularly inspected and drained or cleared; and Oil pressure pipes and fuel oil pipes and fittings will be frequently inspected to ensure that leaks are identified at an early stage and fixed.	Low	1
Failure of Plant Equipment OSP Failure of Plant Equipment	Chemical (TBC)	A risk assessment will be undertaken for any task which involves the direct or indirect handling of chemicals and consider the risks and hazards associated with releases occurring from a failure of equipment or plant; All personnel involved in tasks which involve the direct or indirect handling of chemicals (including the operation of any machinery or plant that use chemicals) will be adequately trained and competent in handling such chemicals; Personal Protective Equipment (PPE) will be provided to personnel involved in tasks requiring direct or indirect handling of chemicals. Personnel that refuse to wear the appropriate PPE in line with company policy will be removed from such tasks. If the spilt chemical has not been identified, responders should assume a worst-case scenario and wear the highest level or protection; Safety Data Sheets will be displayed wherever chemicals are stored and on accessible and visible notification boards. The SDS will identify the chemical, the hazards, the ingredients/composition, first-aid measures, fire-fighting measure, accidental release measures, handling and storage, exposure controls, physical and chemical properties, stability and reactivity, toxicological information, ecological information, disposal considerations, transport information, regulatory information and other information; Safety Data Sheets will provide data on the hazards to human health and the marine environment as evaluated by the Group of Experts on Scientific Aspects of Marine Environmental Protection (GESAMP), and exposure limits expressed as Immediately Dangerous to Life or Health (IDLH), Emergency Response Planning Guidelines (ERPG), Acute Exposure Guideline Levels (AEGL) and Temporary Emergency Exposure Limits (TEEL) to assist with the safe response to incidents; and Equipment containing or using chemicals will be clearly labelled with informative hazard and warning signs of the implications of misuse.	Low	1

Spill Scenario	Potential Pollutant	Control Measures	Risk with measures in place	Tier
Spillage During Use of Equipment	Chemical (TBC)	Transport and storage of chemicals will be undertaken as per instructions on the manufacturers label and adhere to the following conventions and codes: - Appendix I of Annex I to the International Convention for the Prevention of Pollution from Ships, 1993 as modified by the Protocol of 1978 (MARPOL73/78); - Chapter 17 of International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and also Appendix II of Annex II to MARPOL 73/78; - Chapter 19 of International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code); - Section 9 of International Maritime Solid Bulk Cargoes Code (IMSBC Code) if also covered by IMDG Code in packaged form; and - International Maritime Dangerous Goods Code (IMDG Code). Labelling of chemicals must be clear and informative and refer to the Safety Data Sheet (which must be clearly displayed nearby). Information will include the chemical name and warning/hazard symbols for its associated physical and chemical hazards it presents as a minimum; and Volatile, dangerous chemicals known to react violently with one another shall not be stored in the same compartment. Wherever possible, such chemicals shall be stored at opposite ends of a vessel or platform to minimise risk.	Low	1

Full details about the control measures referred to above are contained in Section 8 below.

6.2.4 Protected Sites

Depending on the circumstances of the incident and the fate and trajectory of any release, coastal and / or marine protected areas may require additional consideration when planning a response. Within the scope of this document, this is likely to be the case in the event of a Tier 2 or Tier 3 incident.

The priority is to minimise the risk of oil affecting protected sites. Strategies to implement this may include a focus on at-sea containment and recovery, dispersant application, protective coastal booming and pre-empting coastal areas that may be affected and stockpiling equipment prior to oil grounding.

Decisions will be made on an incident-by-incident basis and will be informed by fate and trajectory modelling and advice from specialists including the Scottish Standing Environment Group (SSEG).

The MCA will determine whether it is necessary to convene the SSEG - the group provides advice on public health and environmental issues that require a regional or national response, Moray East and the Moray East ECoW will liaise with the SSEG as required. The scope of the SSEG functions are proportional to the incident, its geographical location, extent, severity, pollutant involved, potential hazard to human health and environmental sensitivities.

The core members that will comprise the SSEG will include representatives from Marine Scotland, who will chair the group, Scottish Environment Protection Agency (SEPA), Joint Nature Conservation Committee (JNCC), Scottish Natural Heritage (SNH) and NHS Scotland.

Protected sites within the Moray Firth that have been considered to be at risk to a potential incident have been considered within the scope of this document. A summary is provided in Table 6.3 below.

Table 6.3 List of Designated Sites for Nature Conservation / Geological Interest considered at risk of a potential incident.

Designation Type	Designation Name
Ramsar / Special Protection Area (SPA)	Moray and Nairn Coast Ramsar and SPA; Loch of Strathbeg Ramsar and SPA; Dornoch Firth and Loch Fleet Ramsar and SPA; Inner Moray Firth Ramsar and SPA.
SPA	East Caithness Cliffs SPA; Buchan Ness to Collieston Coast SPA; Troup, Pennan and Lion's Head SPA; North Caithness Cliffs SPA; Moray Firth proposed SPA (pSPA).
Special Area of Conservation (SAC)	East Caithness Cliffs SAC; Dornoch Firth and Morrich More SAC; Buchan Ness to Collieston SAC; River Spey SAC; Culbin Bar SAC; Moray Firth SAC; Berriedale and Langwell Waters SAC, River Evelix SAC, River Moriston SAC, River Oykel SAC.
Site of Special Scientific Interest (SSSI)	Spey Bay SSSI; Berriedale Cliffs SSSI; Cullen to Stake Ness Coast SSSI; Rosemarkie to Shandwick Coast SSSI; Rosehearty to Fraserburgh Coast SSSI; Masonshaugh SSSI; Culbin Sands, Culbin Forrest and Findhorn Bay SSSI; Munlochy Bay SSSI; Helmsdale Coast SSSI; Duncansby Head SSSI; Longman and Castle Stuart Bays SSSI; Inverbrora SSSI; Castle of Old Wick to Craig Hammel SSSI; Bullers of Buchan Coast SSSI; Cairnbulg to St Combs Coast SSSI; Whiteness Head SSSI; Beauly Firth SSSI; Dunbeath to Sgaps Geo SSSI; Loch of Strathbeg SSSI; Dornoch Firth SSSI.
Marine Protected Area (MPA)	Southern Trench proposed MPA (pMPA).

In addition to the designation conservation objectives and other associated documents, data on marine mammal sightings, seal haul-out sites and bird breeding sites will be considered within the response planning.

Consideration will also be made to bathing waters, socio-economic receptors at the coast, impact to shipping and navigation routes, tourism and leisure (i.e. marine users such as sailing and angling activities), and commercial fishermen. Likely impacts of a spill to combat during a response include oiling of coastlines and wildlife, impacts to water quality in bathing waters, damage to recreational water sports equipment, and visual impacts to the local community and tourist spots.

6.2.5 Estimated Hydrocarbon and Chemical Inventory

At this stage it is not possible to provide accurate, reliable details concerning volumes. Once designs are complete, and construction methods finalised, a full inventory containing specific details of hydrocarbons and chemicals will be included here.

Table 6.4 Estimated Hydrocarbon and Chemical Inventory

Substance Type	Substance Name	Location	Inventory
TBC	TBC	TBC	TBC
TBC	TBC	TBC	TBC

7 INCIDENT RESPONSE - Support

This section explains the organisational structure of a response operation with respect to the leadership, command and management of incident response. It defines the following:

- The key response functions;
- The divisions of responsibility;
- The coordination of all the organisations involved;
- The responsibility for decisions;
- Decisions of a command centre and forward operating base locations;
- The involvement of third parties in the response;
- Media and public relations handling; and
- Record keeping.

It also describes how Moray East ensures competent people are involved, and what sort of training and communication takes place.

Figure 7.1: Support

7.1 Support Functions

7.1.1 Moray East Resources

Regardless of the classified Tier of a spill, Moray East will ensure that each of the functions detailed within this section are fulfilled and are proportionate to the Tier of the response. For example, the team provided to respond to a Tier 1 emergency response will be smaller than that designated to provide a Tier 2 or Tier 3 response. The size and weight of the functions will be escalated and de-escalated in line with the severity and magnitude of the spill, and the corresponding level of response.

Moray East shall prepare and maintain a 24/7 organogram (including deputies) and include here

Moray East will ensure that there are emergency staff contacts available (either within the Moray East team or contracted specialists) to coordinate a potential response, 24 hours a day (due to the nature of the Development, there are no 'core hours', and the response would be the same whenever an event occurred).

Please refer to Appendix III for a directory of key contacts.

7.1.2 Construction Organogram

Moray East is the Client for the Works under the CDM regulations, appointing a Principal Contractor to be in charge of the Construction. The hierarchy and relationship between them is shown below:

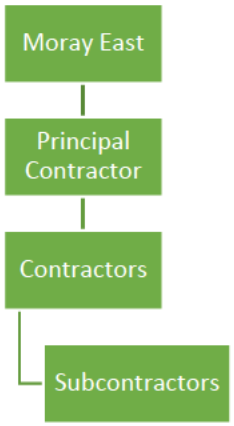

Figure 7.2: Construction Organogram

The chain of command on site comes from the Principal Contractor, (who will always have overall, day-day, management control and will direct and instruct as appropriate) and down through contractors to any subcontractors onboard. Masters remain in command of their own vessels but will be directed by the Principal Contractor where appropriate. This will be affected by the involvement of external agencies in the event of a Tier 2 or Tier 3 event.

The hierarchy of compliance cascades from Moray East to the Principal Contractor and further down through the contracting / subcontracting organisations. Each is responsible for verifying the level of compliance of the one below in the hierarchy.

7.1.3 Key Response Functions - Marine Coordination Centre

There shall be a Marine Coordination Centre (MCC), located in one of the two Moray East bases (Marine and O&M Base).

In the event of an incident, a dedicated space for an incident command centre of sufficient size to accommodate large groups will be identified where the command team can manage the response, as well as host relevant external parties (such as oiled wildlife specialists).

The MCC's role is to manage vessel movement and all emergency response procedures. Additionally, the Principal Contractor and Contractors' vessel activities shall be overseen and coordinated by the MCC.

The MCC will support:

- Clear definition of all roles and responsibilities in a response operation;
- Determining the severity of an incident and allocating a Tier in order to implement a proportionate response;
- Allocating personnel and equipment to affected areas through the lifecycle of the incident;

- Ensuring dedicated communication personnel are available to disseminate information to and from the incident site to the MCC;
- Escalating a response – this may include mobilising Tier 2 or Tier 3 responses with contracted specialist response contractors and / or government resources;
- De-escalating a response – decision making with regard to standing down equipment / personnel in accordance with the circumstances of the incident and response;
- Liaison with external partners – including government bodies, spill response contractors, external specialists (including waste management contractors, oiled wildlife specialists etc.)
- Response termination – this will include collaboration and agreement with government bodies if Tier 2 / 3;
- Media handling;
- Waste management;

Once a full scope is confirmed and agreed, relevant details will be included in the VMP and an updated MPCP.

7.1.4 Key Response Functions - Emergency Response Team

There shall be an ERT for the Development during the construction and operational phases. A crew transfer vessel (CTV) equipped with pollution response and safety equipment will be available to provide an initial response to an incident, the ERT will support the implementation of this MPCP.

The ERT will be located in the marine base (and offshore) and will on 24/7 standby to mobilise in response to Tier 1 incidents. It is expected that if an incident escalated to Tier 2 / 3, that the ERT will be embedded into the wider response operation and a protocol for coordinating a response outside of core hours will be established.

Full details are still to be confirmed however, the ERT will liaise directly with the Marine Coordinator who will have responsibility for directing the response operation and contacting the Moray East QHSSE Manager and the ECoW. A role will be defined for an individual within the ERT to communicate with the MCC. All communications will be logged and filed by a dedicated communications team embedded in the MCC.

Specific names, numbers etc, including back up personnel will be included in formal communications workflows and an ERT organogram.

The ERT shall supplement any arrangements the Principal Contractor and Contractors have on-board vessels and structures, who shall include them in their emergency planning.

MS-LOT will be notified of any reportable incidents immediately by the ECoW. The Moray QHSSE Manager lead would then communicate with the ERT via the Marine Coordinator to maintain contact with any ongoing emergency environmental response, with support from MS-LOT and the ECoW.

7.1.5 Key Response Functions - Operations and Maintenance Base

There shall be an operations and maintenance (O&M) base for the Development, which may be in use during the construction phase. The facility may be split across two different ports (with one functioning as more of a marine base – supporting vessel movements) but will be in a different location from any construction / assembly port or intermediate delivery port (although there will be some concurrent use for construction crew transfer). The location and design of the O&M Base is still being determined.

In the event of a spill incident, the O&M base (once established) will act as the incident command centre and will host both the MCC and the ERT and support response operations by providing logistics and transport for materials and personnel.

The Principal Contractor's and Contractor's HSE activities shall comply with any of the O&M Base requirements and instructions on a daily basis e.g. use defined, secure and bunded lay down areas for waste or chemicals. Standard operating procedures on site will comply with industry standard guidelines as well as any specific mitigation outlined in consent documents.

The Principal Contractor and Contractors shall ensure that they share environmental records with Moray East as required.

7.1.6 Key Response Functions - Forward Operating Bases

In the event that an incident escalates to the extent that significant lengths of shoreline may be affected it is critical to identify sites for potential forward operating bases in towns / ports / harbours to assist with response planning. These sites typically will manage the response for a specified length of shoreline if that area is deemed too far away from the MCC. They will take instruction from the MCC however will have some capacity to manage response operations within their area of jurisdiction.

The presence of FOB's ensures that clear, consistent decision making regarding spill response can be made in response to specific geographic spill response challenges that may exhaust the capacity of the MCC.

7.2 Decision making responsibilities

Table 7.1, Table 7.2, Table 7.3 and Table 7.4 provide high-level details on what Moray East, Principal Contractors, contractors and third parties' responsibilities are under the MPCP.

Table 7.1: Moray East Responsibilities

Role	Responsibility under the plan
Moray East	
Moray East	Moray East has overall responsibility for the MPCP and compliance
Moray East Project Director	Approval of the MPCP; and Responsible for requiring that sufficient resources and processes are in place to deliver / comply with the MPCP.
Moray East Construction Director	Approval of the MPCP; Responsibility for ensuring requirements of MPCP are cascaded to Principal Contractor and Contractors; Addressing any Principal Contractor and Contractor non-compliance; and Responsibility for ensuring management arrangements are in place for Principal Contractor and Contractors appointed.
Moray East Head of Consenting	Approval of the MPCP; Reporting to / advising the Project Director and Moray East Board in relation to consenting related matters arising from any incident and providing environmental input where required; Ensure provision of resources from the Development Team to support the Moray East QHSSE Manager in the review of relevant contractor documentation in line with this MPCP and the ES commitments; and Where necessary reporting to MS-LOT and other stakeholders including MFRAG on compliance with the MPCP and response to any environmental incident.

Role	Responsibility under the plan
Moray East	
Moray East Ecological / Environmental Clerk of Works (ECoW)	Review of the MPCP; Provide advice to Moray East on compliance with consent conditions; Monitor and report to MS-LOT on compliance including reportable incidents; and Help induct site personnel on site.
Moray East QHSSE Manager	Writing and maintenance of the MPCP; Ensure environmental risks from installation works are reduced to ALARP; Ensuring management arrangements are in place for Principal Contractor and contractors' Legal compliance reviews; Ongoing Development environmental performance monitoring; Reporting of incidents; Complete a Pollution Incident Report for all spillages; Support of Onshore Emergency Response Coordination; and Improvement Management.
Moray East Project HSE Manager	Day-to-day contact with Principal Contractor and Contractors; Collation of performance data; Inspection and Audit; Incident Investigation; Client Focal point for deposits, chemicals, transport, waste, and equipment; Emergency Response; and Liaison with marine coordination centre.
Moray East HSE Design Manager	Support with any ongoing design process and ensuring environmental risks are addressed.
Marine Coordinator	Management of movement of vessels; Overall management of activities within the Marine Coordination Centre; Clarifying roles and responsibilities in a response operation; Determining the severity of an incident and allocating a Tier in order to implement a proportionate response; Allocating personnel and equipment to affected areas through the lifecycle of the incident; Ensuring dedicated communication personnel are available to disseminate information to and from the incident site to the MCC; Escalating a response – this may include mobilising Tier 2 or Tier 3 responses with contracted specialist response contractors and / or government resources; De-escalating a response – decision making with regard to standing down equipment / personnel in accordance with the circumstances of the incident and response; Liaison with external partners – including spill response contractors, external specialists (including waste management contractors, oiled wildlife specialists etc.) Response termination – this will include collaboration and agreement with government bodies if Tier 2 / 3; Aspects of media handling; and Aspects of response waste management.
Emergency Response Team	Support offshore pollution control in the event of an environmental incident

Role	Responsibility under the plan
Moray East	
Permit to Work Coordinator	Day-to-day issuing of work permits and oversight of live risk profile (including environmental risk) from all ongoing work

Table 7.2: Principal Contractor Responsibilities

Role	Responsibility under the plan
Principal Contractor	
Moray East	Prepare their own MPCP in line with the requirements of the Moray East MPCP; Ensure that their own procedures, and those of any Contractors encompass and fully discharge the mitigation and management measures and commitments presented in this MPCP; Implementation of own environmental procedures; Ensuring that any corrective actions arising from environmental audits are addressed; Ensure elements of the MPCP are regularly practiced through drills, and organise an annual pollution emergency scenario offshore involving all relevant contractors and agencies. Ensuring that provision is made for environmental management issues to form part of construction progress meetings and inductions; Ensuring that all construction personnel and contractors assist and support the ECoW where required, for example during on-site monitoring and audits; Ensure environmental risks from works are reduced to ALARP; Responsible for ensuring that sufficient resources and processes are in place to deliver/comply with the MPCP and manage potential environmental impacts; Reporting as per the MPCP; Responsible for implementing and discharging the required mitigation (control) measures on site on behalf of Moray East; Review task specific Method Statements and Risk Assessments to ensure consistency and compliance; Responsible for the dissemination of information from the Moray East management team or ECoW to anyone working on or visiting site; Producing and maintaining records of activity on site and communicating those to the ECoW to enable reporting of compliance to MS-LOT; and Liaising with the Moray East ECoW and facilitating the ECoW in the fulfilment of their responsibilities.

Table 7.3: Wind farm contractor responsibilities

Role	Responsibility under the plan
Contractor	
TBC	Prepare their own MPCP in line with the requirements of the Moray East MPCP and the Principal Contractor as appropriate to their scope of work (this may be combined with a traditional environmental management plan; Ensure that their own procedures, fully discharge the mitigation and management measures and commitments presented in this MPCP as appropriate to their scope of work;

Role	Responsibility under the plan
Contractor	
	Implementation of own environmental procedures; Ensuring that any corrective actions arising from environmental audits are addressed; Ensure elements (as appropriate to their scope of work) of the MPCP are practised regularly through drills, and participate in an annual pollution emergency scenario offshore involving all relevant contractors and agencies; Ensuring that provision is made for environmental management issues to form part of construction progress meetings and inductions; Ensuring that all construction personnel and contractors assist and support the ECoW where required, for example during on-site monitoring and audits; Ensure environmental risks from works are reduced to ALARP; Responsible for ensuring that sufficient resources and processes are in place to deliver/comply with the MPCP and manage potential environmental impacts; Reporting as per the MPCP; Responsible for implementing and discharging the required mitigation (control) measures on site on behalf of Moray East; Review task specific Method Statements and Risk Assessments to ensure consistency and compliance; Responsible for the dissemination of information from the Moray East management team or ECoW to anyone working on or visiting site; Producing and maintaining records of activity on site and communicating those to the ECoW to enable reporting of compliance to MS-LOT; and Liaising with the Moray East ECoW and facilitating the ECoW in the fulfillment of their responsibilities.

Table 7.4 Third party spill response contractor responsibilities

Role	Responsibility under the plan
Contractor	
TBC	Ensure they are accredited to the required standards stipulated by UK law; Ensure that they have the equipment, personnel and technical expertise to deliver spill response as per their contract with Moray East. It is likely they will be contracted to manage Tier 2 and or Tier 3 incidents; and Be available 24/7 with a pre-determined (TBC) level of response capacity. (It is noted that the MCA has contractual arrangements with specialist pollution response contractors and with other appropriate commercial service providers; The former is tasked with the deployment and operational use of national counter pollution equipment and the latter provide additional support services, e.g. aerial surveillance and spraying; substance testing and analysis. It likely that MCA resources would be mobilised in the event of a Tier 3 incident). **PLEASE NOTE THAT NO CONTRACTUAL ARRANGEMENTS WITH THIRD PARTY SPILL RESPONSE CONTRACTORS ARE CURRENTLY IN PLACE. THEY WILL BE CONFIRMED IN DUE COURSE AND DETAILS WILL BE UPDATED IN THE MPCP ACCORDINGLY**

7.3 Media and Public Relations Planning

Within the MCC, a communications and briefing rooms for media will be made available if an incident escalates to a Tier 2 or Tier 3. The MCA would likely manage media aspects, briefings and coordinate with developers maintaining consultation throughout for statement releases. It is unlikely that media and public relations planning will be required for a Tier 1 response, however this will be determined on an incident-by-incident basis.

If a media management function is required, MCA will likely take the lead and facilitate co-operation between press officers, the operator, the ship owner/salvor (for a shipping incident) and government bodies (depending on the incident location). The presence of interested third parties such as NGO's will be determined on an incident-by-incident basis.

Managing the flow of information to the media is critical and will be undertaken to ensure consistent messages are disseminated. The following are considered priorities if an incident escalates to the extent that the media become involved (likely to be a Tier 2 / 3 incident):

- A dedicated media spokesperson will be identified by Moray East,;
- A dedicated time and place for official press releases will be made available, commensurate with the scale of the incident;
- Information and advice should NOT be released by one organisation if it covers the area of responsibility of another or, if the information has not been agreed by the responsible organisation;
- There is NO speculation about causes or future developments. Only factual information should be provided to avoid confusion; and / or
- Pre-agreed holding statements will be prepared and distributed for media release as appropriate.

7.4 Response Resources

7.4.1 Equipment

Moray East has access to their own supply of response equipment. Should an incident escalate beyond the scope of Moray East's capacity, specialist oil spill contractors will be mobilised. An inventory of Moray East owned spill response equipment is provided in Table 7.5.

Table 7.5 Moray East Owned Emergency Response Equipment

Functions	Equipment	Quantity
Spill Kits	Neoprene air booms	3
	Debris Booms	3
	Beach Seal Booms	3
	Inflation pump	1
	Reel/Deployment system	1
	SOPEP Spill kits	3
Medical Emergency	SOLAS Category C First Medical kits	1
	AED Defibrillator	1
	Paraguard Stretcher	2

Functions	Equipment	Quantity
Casual Retrieval	Rescue Strops/slings	3
	Flexible Ladder	1
	Dacon Rescue Scoop & Deployment System	1
Lifting Equipment	Onboard crane capable of launching Dacon Rescue Scoop and spill booms	1
	Portable emergency fire water pump (in addition to boat's own fire water system)	1
PPE	Hard Hat Fire retardant Coveralls Transfer suit Steel toe cap boots Personal Locator Beacon Lifejacket Gloves	25

7.4.2 Logistic Support

An inventory of available equipment is provided in above and procedures for mobilisation outlined within Section 8 below. Companies contracted to provide Tier 2 and / or Tier 3 response are identified, their equipment and services and contractual terms are appended to the MPCP.

Logistic support to clean-up crews such as personal protective equipment (PPE), food, accommodation and medical resources will be procured and appended to the MPCP. The names and addresses of potential suppliers, both within the area of the plan and beyond should be included in Appendix III.

Options for waste storage and the options for treatment, disposal or reuse of waste should be made, taking into account environmental considerations and legal requirements, including licensing are appended to the MPCP. Separate disposal routes are identified for liquid and different types of solid wastes and plans should allow for their segregation into distinct waste streams from the start of the response.

Temporary storage sites for oil and oily waste will be identified as near as possible to the potential clean-up sites identified in the risk assessment and shown on relevant maps. Contact details for licensed waste transporters and disposal facilities will be included as well as for national licensing authorities.

7.5 Communications

This section explains the opportunities for sharing and communicating environmental information.

7.5.1 MPCP Distribution

This MPCP is intended to be referred to by everyone involved in the construction and operation of the Development. Effective communication of its contents is key to successful implementation.

In addition to digital copies to be shared with all contractors, hard copies of this MPCP are to be held in the following locations: -

- Moray East's main office;
- Premises of the Principal Contractor and site Contractors; -
- All site offices dealing with marine operations;

  - The Moray East Marine Coordination Centre, and
  - With the ECoW(s); and
- Aboard any vessels carrying out/supporting the Works.

All personnel will be informed of the MPCP, its function and where to access copies at the site induction. Contractors will be required to be familiar with the MPCP and formally submit an acknowledgement of its contents to Moray East prior to starting works on site.

Reliable and secure communications ensure a safe and effective response operation. Field teams must be able to communicate with each other and with the response management team. An appropriate level of equipment and technology, and quick-access to subject matter experts, will be made available to operate a communications network. The dedicated facility for the command centre will be equipped to cope with large volumes of incoming calls. Communications technology provided will be appropriate for the level of remoteness to ensure communication networks are maintained. If there is the potential for hazardous environments, intrinsically-safe radios and mobile phones must be used.

Restricted or dedicated radio frequency channels for emergencies such as an oil spill will be clearly communicated and disseminated to contractors and all other parties working on Development with the potential to be involved in an oil spill. Types of devices available for communications and IT should be listed along with radio frequencies, telephone numbers and fax numbers.

Contact details for IT assistance, software management, GIS operators and other technology specialists are also included in this contingency plan.

7.5.2 Moray East Internal Communications

There is a range of opportunities for the exchange and sharing of environmental information (including that relevant to the MPCP). These include:

- Inductions;
- Moray East Meetings – HSE is a fixed agenda item;
- Moray East HSE Meetings – Moray East holds regular HSE-specific meetings with staff to ensure that people are able to raise concerns and get feedback on ongoing matters;
- Site Meetings - HSE is a fixed agenda item;
- Monthly Contractor meetings – HSE is a fixed agenda item;
- Monthly HSE Promotions – every month there is a fresh HSE theme for promotion and discussion;
- Monthly HSE Reports – every month a full report of all HSE leading and lagging indicators is prepared and shared with the team; and
- Task / area specific HSE tool-box talks - these will be held before tasks with specific HSE and / or mitigation are undertaken.

7.5.3 Moray East ECoW and Communications

The ECoW plays a key role in the delivery of the MPCP. In fulfilling this role, the ECoW shall:

- Establish direct contact with Contractors, Subcontractors, the Archaeological Consultant and FLO when required;
- Provide support to the Moray East QHSSE Department and Development Team;

- Report directly to MS-LOT (and as part of the monthly ECoW report) on compliance with the MPCP including reporting reportable incidents;
- Provide input to inductions which will include communicating key messages of the MPCP;
- Work with contractors and Moray East QHSSE to establish practical environmental communication and reporting protocols and that sufficient information for compliance reporting is acquired; and
- Work with the Moray East Development Team to liaise with MS-LOT and other stakeholders on environmental management matters.

In practice the offshore ECoW will only spend some time at site (only offshore as required) but will be available remotely to support all involved when needed. They will be in regular contact with the Moray East client representatives offshore.

The ECoW will establish communication channels with key personnel, including Moray East QHHSE team, Marine Coordination team, onboard client representatives and contractors (as appropriate). The ECoW will be available to support these teams as required.

7.5.4 Moray East External Communications

Table 7.6 below sets out the arrangement that will be used to provide the Scottish Ministers and relevant stakeholders (including, but not limited to, SNH[1], SEPA, RSPB Scotland, MCA and NLB) with regular reporting on construction activity, including any environmental reporting data and any issues that have been encountered, and how these have been addressed.

A list of key contacts, including responsibilities, contact telephone numbers and addresses, which will require regular communication during an incident response has been provided in Appendix III. The directory will inform the response team who to establish firm communications with as a priority, and who else to inform to ensure smooth communication and that information is dispersed in an organised and systematic way.

From the outset of an incident the MCA establishes the **Crisis Media Team**. One of the team's roles is to liaise on behalf of MCA and the SOSREP with the press and other Government press offices. It is essential that this team:

- Identifies the agencies which are responsible for handling various aspects of the situation e.g. Department for Transport (DfT), Department for Business Energy and Industrial Strategy (BEIS) ship owner and / or operator, local authority, police, port authority and any other relevant organisations; establishes a Communications Working Group made up of press officers representing the ship owner and / or operator, DfT / MCA, BEIS, devolved administration (if necessary). This group will establish a working protocol and be the main conduit for information sharing between press officer's and is likely to be meet remotely by conference call;
- Compiles a list of standard questions and answers and fast facts which grows as the incident develops. This list should be shared with all press offices of the organisations involved;
- Advises senior staff at the MCA and the SOSREP on media issues, arranges press conferences, issues regular news bulletins, posts on social media and agrees how social media is monitored and posts answered;
- Ensures that media activity does not interfere with the operational activity of the emergency services; and
- Ensures that the media does not harass human casualties.

At an early stage a mechanism needs to be established for clearing statements, responding to media enquiries and social media postings, the logistics of arranging the press conferences, individual briefings and media monitoring.

Table 7.6: External Communications

Subject	Proposed Frequency	Relevant Stakeholders
ECoW Compliance reporting, including construction progress and agreed environmental reporting criteria.	Monthly Reporting	MS-LOT
Moray East Development and ECoW Meetings with MS-LOT	As Required	MS-LOT
Moray East Consenting updates	As Required	Moray Firth Regional Advisory Group (MFRAG) and other key stakeholders
Incident Reporting (including accidental discharge of pollutants)	As Required	MS-LOT/MCA
Substance Deposits	As required	MS-LOT
Planned discharge of chemicals (if required).	As required (in advance of discharge)	MS-LOT
Force Majeure, as defined under Section 6.1 of the EMP	As required	MS-LOT
Materials Transportation and Material Alterations	Monthly	MS-LOT
Moray Firth Offshore Wind Developers Group – Commercial Fisheries Working Group (MFOWDG-CFWG)	As required	Marine Scotland / Fisheries Industry Representatives and other members of MFOWDG-CFWG)
Notice to Mariners	Fortnightly	Kingfisher Bulletins

7.5.5 Moray East, Principal Contractor and Subcontractor Communications

During the works, Environment, alongside Health and Safety, shall be a standing item in all meetings, and shall be part of established daily reporting when offshore.

The offshore client representative(s) will be responsible for providing daily progress reports to the Moray East QHSSE department and ECoW, (who would then ensure that MS-LOT received details as appropriate).

Full monthly reporting requirements for both the Principal Contractor and Contractors are included in Section 9.

7.6 Induction Requirements

Moray East shall ensure that the MPCP's contents are included in the inductions of all new staff prior to them undertaking works on-site.

The Principal Contractor and contractors shall ensure that all employees, sub-contractors, suppliers, and other visitors to the Moray East site are made aware of the content of this document that is applicable to them and are aware of what their responsibilities are in the event of a spill. This may be delivered as part of a larger site induction. The induction process shall include an assessment to verify that key information has been successfully conveyed to inductees. Moray East shall audit this at least once annually (Section 9.4).

Regular updates on Site or task specific environmental commitments (relevant to the MPCP) shall be undertaken through the use of toolbox talks.

Inductions to the site shall include (as a minimum):

- Identification of specific environmental risks associated with the work to be undertaken on Site by the inductee;
- Identification of specific environmental risks which relate to specific areas of the Moray East site;
- Any site, time or task specific mitigation that is required in order to comply with commitments made in the ESs or consent documents;
- Summary of the main environmental risks at the site as identified during the pre-construction surveys;
- Role of the ECoW and contact details;
- Environmental Incident and Emergency Response Procedures; and
- Any other relevant information.

The induction contents shall be shared with Moray East and the ECoW for comment prior to Works starting for review and input. The ECoW may be involved in the delivery.

7.7 Toolbox Talks

The Principal Contractor and Contractors shall deliver toolbox talks on environmental matters on a regular basis (schedule to be stated within their EMPs, but no less than monthly - the frequency will be much higher at the start of the work, and similarly peak during times of significant changes of personnel). A record of all toolbox talks, their content and the attendees will be maintained and recorded. Where required these shall include aspects of the MPCP.

The ECoW shall support the delivery of Toolbox talks and provide specialist input as required / requested.

Where there has been a problem or deterioration in environmental performance, the Principal Contractor and Contractors shall increase the frequency of toolbox talks.

7.8 Environmental Training

Moray East shall deliver environmental training as part of its in-house training programme.

The Principal Contractor and Contractors shall prepare a full schedule of training (timing and content) and include this in their MPCPs.

The provision of environmental training will be audited on a regular basis (See Section 9.4 below).

7.9 Pollution Drills

The Principal Contractor and Contractors shall ensure that elements of the MPCP are practised through drills on a regular basis.

The Principal Contractor shall also organise and annual offshore pollution emergency scenario, which will involve all relevant agencies (where available) and contractors.

7.10 Moray East Staff Environmental Competence

Moray East provides environmentally competent staff in support of the Development. This is achieved through the implementation of the Moray East Competency Management Procedure.

All Moray East roles are allocated a series of competency requirements (skills knowledge and experience), people are matched to those roles based on the extent to which they meet those requirements. On an annual basis, the Moray East QHSSE Manager and HR Manager take the results of ongoing performance and potential appraisal processes and conduct a gap analysis. This gap analysis forms the basis of ongoing training. Environmental competency and training is part of this.

7.10.1 Moray East Staff Competence and Organisational Capability

After leadership, two of the most important elements in meeting the environmental objectives are, competence and organisational capability.

Moray East's concern is the suitability of an individual and/or organisation to perform a particular function in the execution of the Development.

Moray East shall always ensure that the Principal Contractor and Contractors have sufficient resources of the required competence to meet the contractual and environmental requirements.

7.10.2 Moray East Contractor Environmental Competence

Moray East assesses overall competence and suitability of all contracted (individual and organisations) prior to working on the Development.

They complete a prequalification QHSE Questionnaire and are subject to ongoing performance review and periodic reassessment depending on the duration of their scope of work. As part of that they have to demonstrate that they operate an EMS appropriate to their scope of work. ISO 14001 is used as a benchmark, but if a contractor can justify an alternative, but equivalent, standard, then this is accepted. They must also maintain the status of their EMS for the duration of the works.

Where the Principal Contractor or Contractors have a change in an individual performing a significant environmental role (e.g. construction manager), Moray East will request evidence that the Principal Contractor has undertaken a review of their environmental competence for that role.

7.10.3 Moray East Sub-Contractor Competence

All Moray East's contractors are required to have a system in place that ensures any sub-contractors appointed are competent to perform their scope of work. Evidence that this system is in place and fit for purpose will be provided to Moray East on request and this system shall be audited by Moray East on a 6-monthly basis.

8 INCIDENT RESPONSE - Operational procedures

This section explains what Moray East expects and what everyone (Moray East staff, the Principal Contractor and Contractors) must do concerning the prevention of and reaction to marine spills.

Figure 8.1: Operation

8.1 Overview

This section sets out what people must do in the event of a marine pollution incident.

Whether suspected or actual, Development-related or not, all spills shall be responded to in the same manner.

Where the spill is generated by an incident that is part of an emergency scenario, the Emergency Response Plan shall also apply.

8.2 Key Response Considerations

There are certain considerations that need to be taken into account when planning and implementing an emergency response. Table 8.1 below summarises they key parameters to be considered.

Table 8.1 Key parameters and constraints to consider when planning and implementing a spill response

Parameter	Key considerations
Dispersant application	- Appropriate consultation is required with regulatory bodies before initiating the use of dispersant as a response; - Formal approval for dispersant use from Marine Scotland will be required in water depths of less than 20 metres or within 1 nm of such depths; - The window of opportunity to use chemical dispersants will be dependent upon various factors including the quantity of oil, sea temperature, the nature of the spill (i.e. instantaneous or continuous release), prevailing weather and environmental sensitivities; and - UK approved oil treatment products may be used without prior consultation with the licensing authority in Force Majeure situations where there is a genuine risk to human life or to the safety of an installation or vessel, such as where there is a serious danger from fire or explosion.
At sea containment and recovery ***Deployment of an oil recovery vessel(s) with offshore oil containment booms and oil skimming equipment***	- Mechanical containment and recovery capability would be available through the appointment of a Tier 2 / 3 response contractor; and - Note that for the general United Kingdom continental shelf, offshore containment and recovery is not normally considered to be a viable response strategy due to the rough offshore weather conditions that are often encountered.
Chemical Response	- Volumes of chemicals utilised in the Development will be relatively small. Chemical spills are considered unlikely. A brief summary of potential response techniques for different groups of chemicals (according to their behaviour on contact with water) is presented in Appendix IV.

8.2.1 Spill Classification

Oil spills will be classified in accordance with the MCA's three-tier system. Please refer to Section 6.2.2 above for further detail on classifying oil spills.

Chemical spills will be classified according to the characteristics of the chemical and the behaviour exhibited by the chemical when released into the marine environment i.e. whether the chemical evaporates, floats on the surface of the water, dissolves in the water, or sinks to the seabed.

8.3 Measures to Control Oil Spills

Table 8.2 below includes response strategies to be enacted for different grades of oil released to sea within the different Tiers of response. Moray East would be responsible for Tier 1 response, although would be escalated the response to a specialist contractor in the event where a Tier 2 or Tier 3 response is required.

Table 8.2: Measures to control hydrocarbon spills

Tier and Resources	Response Strategies	
	Non-persistent Oil (MGO and Diesel)	Persistent Oil (Hydraulic and Lube Oils)
Tier 1	Natural dispersion and monitoring (using support vessel). If safe to do so, agitate using standby vessel propeller ('prop-wash'), by steaming through the slick at speed	Natural dispersion and monitoring. Mechanical recovery where possible.
TIER 2 AND 3 INCIDENTS ARE NOT COVERED BY THE SCOPE OF THIS MPCP		
Tier 2	Natural dispersion and monitoring. Chemical dispersion only if safety or environmental sensitivities are threatened, in consultation with the relevant authorities	Consult specialist support from ERT; Continue to monitor and evaluate strategy using aerial surveillance. Boat-based dispersant application likely to be the primary response strategy – liaise with ERT; and Consider mechanical recovery where possible. Mobilise shoreline containment and recovery equipment if shoreline is threatened – spill response contractor to engage additional support if necessary.
Tier 3	Natural dispersion and monitoring (aerial surveillance). Chemical dispersion only if safety or environmental sensitivities are threatened, in consultation with the relevant authorities.	Contract specialist services through the appointment of a Tier 2/ 3 spill response contractor; Continue to monitor and evaluate strategy using aerial surveillance; Aerial dispersant application likely to be the primary response strategy – through appointment of a Tier 2/ 3 spill response contractor; and Consider mechanical recovery where possible. Mobilise shoreline containment and recovery equipment if shoreline is threatened.

8.4 Measures to Control Chemical spills

Table 8.3 includes response strategies to be enacted for different chemical spills within the different Tiers of response. Moray East would be responsible for Tier 1 response, although would escalated the response to a specialist contractor in the event where a Tier 2 or Tier 3 response is required.

Table 8.3: Measures to control chemical spills

Chemical (behaviour in water)	Key Considerations
Gases and Evaporators	Gases and evaporators could pose an immediate risk to human health. As such, the following actions should be considered as part of a response: • Appropriate PPE and RPE (such as Self-Contained Breathing Apparatus (SCBA)) should be worn; • If near to land, notify the local fire service who will command the onshore response; • Use models and air quality monitoring equipment to trace the vapour cloud by identifying real-time concentration changes in air composition. If unsafe to monitor manually, deploy remote monitoring devices;

Chemical (behaviour in water)	Key Considerations
	• Establish exclusion zones based upon the real-time data and modelling scenarios available; • Consider manoeuvring the vessel to a new position such that any toxic, corrosive or flammable vapours travel away from populated areas; • Liaise with the local authorities to publish advice on remaining indoors and closing windows/doors, or consider advising mandatory evacuations to ensure public safety against the associated risks (panic/hysteria); • Consider use of water/foam sprays to 'knock down' or deflect a vapour cloud. This should only be carried out with awareness of the possible reactions, the generation of large volumes of contaminated water, and the stability of the casualty vessel; • Vapour clouds considered at high risk of ignition and causing an explosion could be mitigated by cooling hot surfaces and suppressing sparks and flames using water spray and foam; and • Air quality monitoring equipment, specialist PPE and RPE will require training in its use. Monitoring equipment will also likely require calibration and regular testing.
Floaters	Floaters may act in a similar manner to oil slicks, although might not be visible to the human eye. A response should be engineered taking into account: • Aerial surveillance and satellite imagery may be able to assist in detecting and monitoring the distribution and spread of floaters with technologies such as SLAR, IR and UV); • If safe to do so, consider deploying booms to contain and control the movement of substances on the water's surface. It is important to ensure the floating chemical will not react violently if a spark is generated; • Containment is not advisable due to a potential build-up of concentrations. It is preferable to allow natural dispersion to reduce concentrations below harmful levels; • Where fire and explosion is a risk and legislation allows, emergency responders may apply fire-fighting or suppressant foams to the floating chemical; • Consider applying sorbent materials to the floating chemical to collect and concentrate the spill – either absorbents or adsorbents based on the desired outcome and type of chemical; • The use of sorbent booms or mats is preferable to apply sorbent powders or fibres, although this may be expensive; and • In specific scenarios, it may be possible to burn-off a floating chemical, although due consideration must be given to the possible formation of toxic fumes.
Dissolvers	Dissolving chemicals are unlike to pose an immediate risk to human health but can have protracted impacts on marine ecology. Therefore, the following actions should be considered as part of a response: • Run computer models/simulations to forecast the dispersion of the dissolved plume and estimate the concentration of dissolved chemical in the water column; • Based upon such models, notify resource owners (fisheries, water intakes, recreational areas etc.) of the potential hazards associated with the release; • Where models calculate elevated concentrations of chemical, physical water quality monitoring techniques should be conducted to gather real-time data; • Consider accelerating the dispersion process by physically disturbing the water; • Balance the response of neutralising, flocculating, oxidising or reducing the chemical within the water against the impacts of adding more chemicals to the marine environment; and

Chemical (behaviour in water)	Key Considerations
	• Should a chemical response be implemented, ensure that agents are non-toxic, the by-products are non-toxic, both have a low biological oxygen demand (BOD), are safe to use by trained personnel, easy to handle and store, and commonly available at reasonable cost.
Sinkers	Sinking chemicals are unlikely to pose an immediate hazard to human health, although do pose a persistent risk to seabed sediments and benthic ecology. As such, the following response options should be considered: • In shallow waters, mechanical recovery of contaminated sediment using mechanical dredgers and pump/vacuum devices may be implemented. The Moray East Marine Archaeology Reporting Protocol (MARP) and Written Scheme of Identification (WSI) will be followed as relevant.

8.5 Spills Originating from a Vessel

The approach to reporting a spill from a vessel is summarised below.

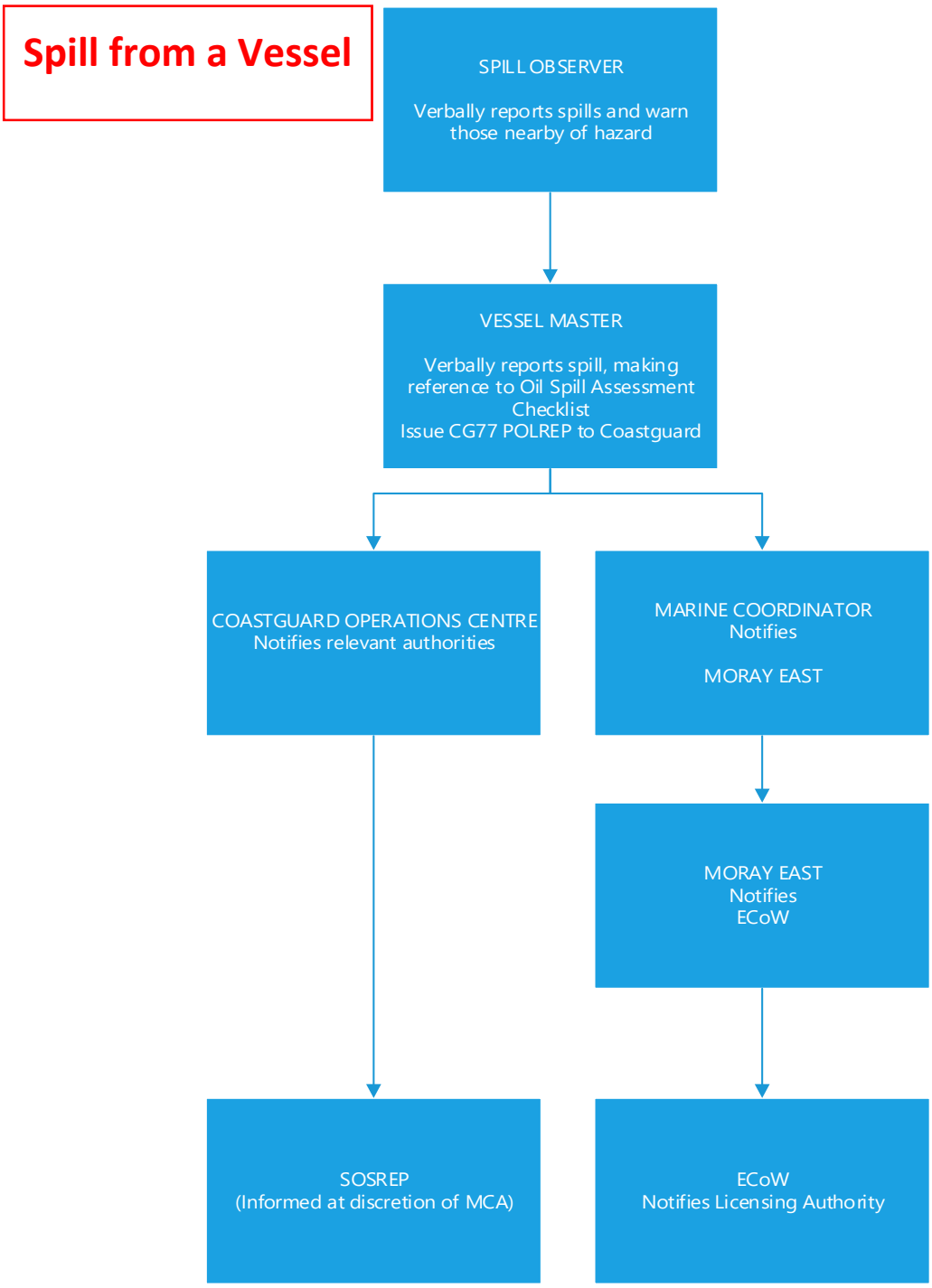

Figure 8.2: Reporting a spill from a vessel

The actions to be taken in response to a spill from a vessel are summarised in the Table 8.4 below.

Table 8.4: Vessel Spill Response

Assess Situation and Commence Response	Moray East - Proposed Actions/Involvement
ACTIONS to be taken by Spill Observer: • Contact all personnel in the vicinity of the leak or spill and warn of the potential hazard; • If safe to do so, stay in vicinity of the leak or spill and continue observation; and note estimated volume of fluid leaked or spilled; • If safe to do so, take any reasonable action to contain or reduce the leak or spill.	• Spill observer to report incident to Marine Coordinator who notifies Moray East personnel; • Moray East to mobilise Tier 1 response personnel to standby; and • If incident is deemed to be Tier 2 or Tier 3, this will be communicated to Moray East personnel and contractors will be mobilised.
NOTIFICATIONS to be made by Spill Observer: • Spill Observer shall report it directly to the Vessel Master.	
Report Spill	
ACTIONS to be taken by Vessel Master: • The Vessel Master will activate the Ship-board Oil Pollution Emergency Plan (SOPEP), or equivalent vessel-specific spill plan; • Where a spill originates from a vessel in a harbour or port, the Vessel Master shall notify the Harbour or Port Authority; • If safe to do so, immediately initiate actions to identify source and stop leakage at source; • Maintain safety of Personnel; the installation / vessel; any vessel within 500 metres; and • Initiate a chronological log of events and actions taken, including a record of estimated spillage / leakage volume, and – maintain this log until stand down.	• Vessel master to report incident to Marine Coordinator who notifies Moray East personnel; • Tier 1 Moray East response personnel on standby - possible mobilisation to site; • Moray East to maintain contact with vessel master regarding CGOC notification; and • Moray East to consider requirements and potential locations for set up of MCC, ERT and O&M base – dependent on severity of incident.
ACTIONS to be taken by Marine Coordinator: • Ensure a log keeper is assigned to monitor response operations and keep a chronological log of events and conversations.	
NOTIFICATIONS to be made by Vessel Master: • All marine pollution incidents must be reported as soon as is safely possible to the Coastguard Operations Centre (CGOC) Shetland via phone (or via VHF radio) on 01595 692976; • The initial verbal report to CGOC Shetland via phone (or VHF radio) must be followed up when practicable with the submission of a Marine Pollution Report (POLREP) via email (or fax) to CGOC Shetland at shetland.coastguard@hmcg.gov.uk. The Vessel Master will submit the POLREP; • Note that CGOC Shetland will pass the POLREP on to the MCA Counter Pollution and Response Branch, who will advise on actions to be taken, and at the same time issue it to other relevant authorities; and • The Vessel Master shall inform the Marine Coordinator of the spill	
NOTIFICATIONS to be made by Marine Coordinator: • The Marine Coordinator will report the incident to Moray East duty responder as soon as it is safe to do so; and • The Marine Coordinator will inform the Moray East Ecological Clerk of Works (ECoW) of the incident and the other responsible Moray East personnel	

Classify and Quantify Spill	
ACTIONS to be taken by Vessel Master: • Confirm source and estimate quantity of oil / chemical spilled; • Classify spill size and determine likely slick movement; • Assess the ongoing nature of the spill and the possible need to mobilise additional resources.	• Moray East personnel preparing for deployment to site, PPE issued, response plan disseminated; • Tier 2/ Tier 3 resources mobilised to site; • MCC, ERT, O&M functions to be set up; • Surveillance and monitoring considered a priority – aerial surveillance to be mobilised for trajectory monitoring if necessary; • Waste management contractors notified and mobilised if necessary; and • Oiled wildlife specialists mobilised (if necessary).
NOTIFICATIONS to be made by Vessel Master: • Updates on status of incident to be passed to CGOC Shetland (verbally and/or via submission of updates to the POLREP form) (and other response organisations as relevant) and as detailed within the vessels SOPEP; and • Information on the nature of the spill to be reported on ongoing basis to Marine Coordinator.	
Choose Response	
ACTIONS to be taken by Vessel Master: • Vessel Master to liaise with the relevant authorities to decide upon and implement initial response strategy in line with the vessel SOPEP. Response strategy may alter as spill is monitored and evaluated; and • Vessel Master to liaise with the Marine Coordinator who will assist with dissemination of information as required and prepare incident report.	• Active response underway; • Moray East personnel to manage Tier 1 response; • Tier 2 / 3 response leadership to be confirmed – expected to be on case-by-case basis; and • Integration of external personnel (third party contractor managers / Government personnel) into Moray East response structure.
ACTIONS to be taken by Marine Coordinator: • Marine Coordinator to liaise with Vessel Master, relevant authorities and other contractors if requested to provide support to the primary responder.	
Incident Monitoring	
ACTIONS to be taken by Vessel Master: • If no risk to personnel, request vessel / aerial surveillance capacity to track oil spill location and take samples and photographs of spilled oil; • Sampling of the oil spill and tracking will be undertaken by trained personnel In the event that the spill escalates to a Tier 2 or Tier 3 spill advice will be sought from the ERT.	• Active response underway; • Dedicated communication personnel to liaise between responders on Site and MCC and ERT and O&B; • Spill monitoring (on-site observations / aerial surveillance if necessary and safe) to continue; • MCC to continue directing resources as appropriate response resources / personnel in response to incident; • Resources to be distributed to directed to priority sites as necessary; and • Spill to be escalated or de-escalated as appropriate
ACTIONS to be taken by Marine Coordinator: • Liaise with Vessel Master and other resources as available (e.g. standby vessels) to assist with slick monitoring if requested (towards other installations / environmentally sensitive areas / coastal regions).	

Monitor and Evaluate Spill	
ACTIONS to be taken by Vessel Master: • Monitor and evaluate spill and continue to report on spill status in line with the vessel SOPEP and on the following: o Overall extent and on-going nature of oil slick; o Direction of movement, especially noting other installations and vessels in the vicinity; o Proximity to environmentally sensitive areas o Areas possibly in need of urgent clean-up measures; o Need for additional assistance and back-up services; and o Progress and dispersion of slick during clean-up operations. • In the event that on-site resources are not able to adequately respond to the existing spill or if the existing spill is likely to escalate, the Vessel Master may seek to engage greater response resources as detailed within the Vessel SOPEP.	• Active response underway; • Surveillance and monitoring to continue – both on-site and aerial surveillance if necessary and safe; • Resources re-distributed as appropriate. Based on demands of incident, site priorities; and • Response escalates / de-escalated as appropriate.
Stand Down and Prepare incident Report	
ACTIONS to be taken by Vessel Master: • Ensure that any waste arising from a spill is managed in accordance with the procedures set out in the Environmental Management Plan (EMP) and disposed of responsibly; and • Make an assessment of when to demobilise any response. Commence "stand-down" procedures as follows: o Ensure all local authorities, contractors, vessels and any external resource suppliers, etc. are contacted, notified of the end of the incident and stood down; o Prepare internal incident report, provide incident log and remain accessible to support other personnel in compiling their reports.	• Response demobilised, including any third party involvement; and • MCC, ERT and O&M base stood down
ACTIONS to be taken by Marine Coordinator: • Assist with dissemination of information to all relevant parties if requested to do so.	

Checklists to be used for a spill originating from a vessel will be developed and included in Appendix V for the following personnel.

- **Observer;**
- **Vessel Master;**
- **Marine Coordinator; and**
- **ECoW.**

8.6 Spills Originating from an Offshore Renewable Energy Installation

The approach to reporting a spill from an offshore renewable energy installation is summarised in the flowchart below (Figure 8.3 below).

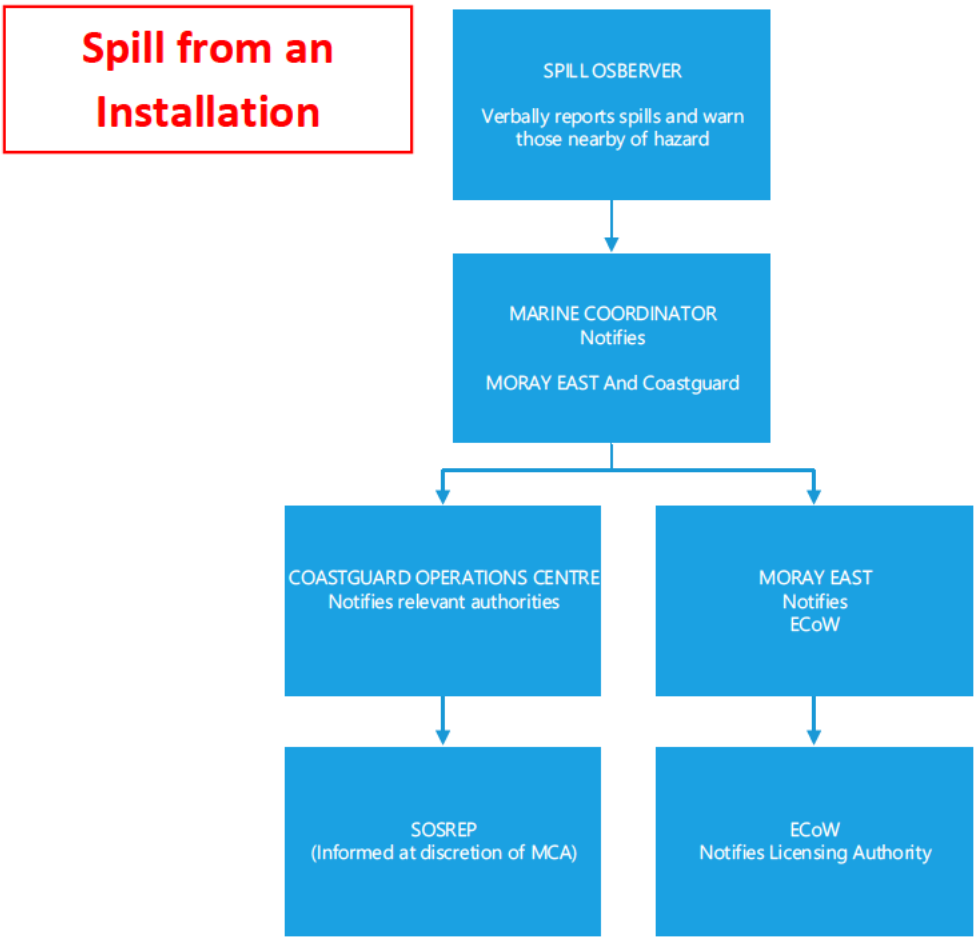

Figure 8.3: Reporting a spill from an offshore renewable energy installation

The actions to be taken in response to a spill from an installation is summarised in the Table 8.5 below.

Table 8.5: Offshore Installation Spill Response

Assess Situation and Commence Response	Moray East - Proposed Actions/Involvement
ACTIONS to be taken by Spill Observer: • Contact all personnel in the vicinity of the leak or spill and warn of the potential hazard; • If safe to do so, stay in vicinity of the leak or spill and continue observation; and • If safe to do so, take any reasonable action to contain or reduce the leak or spill using minor spill kits on the WTGs and OSPs.	• Spill observer to report incident to Moray East personnel; • Moray East to mobilise Tier 1 response personnel to standby; and • If incident is deemed to be Tier 2 or Tier 3, this will be communicated to Moray East personnel and contractors will be mobilised.
NOTIFICATIONS to be made by Spill Observer: • Spill Observer shall report it directly to the Marine Coordinator.	

Report Spill	
ACTIONS to be taken by Spill Observer: • If safe to do so, immediately initiate actions to identify source and stop leakage at source; • Maintain safety of personnel; the installation and any vessel within 500 metres; and • Initiate a chronological log of events and actions taken – maintain this log until stand down.	• Incident to be reported to Moray East personnel; • Tier 1 Moray East response personnel on standby - possible mobilisation to site; • Moray East to maintain contact with spill observer / installation manager as appropriate regarding CGOC notification; and • Moray East to consider requirements and potential locations for set up of MCC, ERT and O&M base – dependent on severity of incident.
NOTIFICATIONS to be made by Marine Coordinator: All marine pollution incidents must be reported as soon as is safely possible to the Coastguard Operations Centre (CGOC) Shetland via phone (or via VHF radio) on 01595 692976. • The initial verbal report to CGOC Shetland via phone (or VHF radio) must be followed up when practicable with the submission of a Marine Pollution Report (POLREP) via email (or fax) to CGOC Shetland at shetland.coastguard@hmcg.gov.uk. The Marine Coordinator will submit the POLREP; • Note that CGOC Shetland will pass the POLREP on to the MCA Counter Pollution and Response Branch, who will advise on actions to be taken, and at the same time issue it to other relevant authorities; • The Marine Coordinator will notify other operators/users in the vicinity of the spill; • The Marine Coordinator will report the incident to the Moray East Duty Responder as soon as it is safe to do so; • The Marine Coordinator will inform the BOWL Ecological Clerk of Works (ECoW) of the incident and the other responsible Moray East personnel; and • Ensure a log keeper is assigned to monitor response operations and keep a chronological log of events and conversations.	
Classify and Quantify Spill	
ACTIONS to be taken by Spill Observer: • Confirm source and estimate quantity of oil / chemical spilled. Classify spill size and determine likely slick movement; and • Assess the ongoing nature of the spill and the possible need to mobilise additional resources. repo	• Moray East personnel preparing for deployment to site, PPE issued, response plan disseminated; • Tier 2 / Tier 3 resources mobilised to site; • MCC, ERT, O&M functions to be set up; • Surveillance and monitoring considered a priority – aerial surveillance to be mobilised for trajectory monitoring if necessary; • Waste management contractors notified and mobilised if necessary; and • Oiled wildlife specialists mobilised (if necessary)
NOTIFICATIONS to be made by Marine Coordinator: • Updates on status of incident to be passed to CGOC Shetland (verbally and/or via submission of updates to the POLREP form) (and other response organisations as relevant).	

Choose Response	
ACTIONS to be taken by Marine Coordinator: • Marine Coordinator to liaise with contractors and vessels and request and coordinate support if required.	• Active response underway; • Moray East personnel to manage Tier 1 response; • Tier 2 / 3 response leadership to be confirmed – expected to be on case-by-case basis; and • Integration of external personnel (third party contractor managers / Government personnel) into Moray East response structure.
Sample Oil and Track Slick	
ACTIONS to be taken by Marine Coordinator: • If no risk to personnel or installation, request a vessel to track oil spill location and take samples and photographs of spilled oil; • Sampling of the oil spill and tracking will be undertaken by trained personnel; and • Liaise with Spill Observer and other resources as available (e.g. standby vessels) to assist with slick monitoring.	• Active response underway; • Dedicated communication personnel to liaise between responders on Site and MCC and ERT and O&B; • Spill monitoring (on-site observations/aerial surveillance if necessary) to continue; • MCC to continue directing resources as appropriate response; resources/personnel in response to incident; • Resources to be distributed to directed to priority sites as necessary; and • Spill to be escalated or de-escalated as appropriate.
Monitor and Evaluate Spill	
ACTIONS to be taken by Marine Coordinator: • Liaise with the Spill Observer to maintain slick monitoring, as required, and observe the following: o Overall extent and on-going nature of oil slick; o Direction of movement, especially noting other installations and vessels in the vicinity; o Proximity to environmentally sensitive areas o Areas possibly in need of urgent clean-up measures; o Need for additional assistance and back-up services; and o Progress and dispersion of slick during clean-up operations. • Ensure that the slick is monitored until complete dispersion.	• Active response underway; • Surveillance and monitoring to continue – both on-site and aerial surveillance if necessary and safe; • Resources re-distributed as appropriate. Based on demands of incident, site priorities; and • Response escalates/de-escalated as appropriate.
Stand down and prepare incident report	
ACTIONS to be taken by Marine Coordinator: • Ensure that any waste arising from a spill is managed in accordance with the procedures set out in the Environmental Management Plan; and • Make an assessment of when to demobilise any response. Commence "stand-down" procedures as follows: o Ensure all local authorities, contractors, vessels and any external resource suppliers, etc. are contacted, notified of the end of the incident and stood down; and o Prepare internal incident report and remain accessible to support other personnel in compiling their reports.	• Response demobilised, including any third party involvement; and • MCC, ERT and O&M base stood down.

Checklists to be used for a spill originating from an installation I will be developed and included in Appendix V for the following personnel.

- Observer;
- Vessel Master;
- Marine Coordinator; and
- ECoW.

8.7 Termination

Operations deemed to be ineffective or to represent an unacceptable risk of additional damage to either environmental or economic resources will be terminated.

Surveys will be undertaken to assist the decision-making process to terminate activities. End points will be discussed and agreed among Moray East personnel for Tier 1incidents (although MCA would still be involved and would monitor) , and with regulators for Tier 2 and Tier 3 incidents. Once they are agreed, worksites can be 'signed off' by management and/ or regulatory authorities.

Equipment will then be demobilised and returned to stores for cleaning and maintenance; any damaged equipment will be repaired or replaced and consumable materials re-ordered as necessary. Finally, temporary waste storage sites and access routes will be restored and other work areas cleaned.

8.8 Waste Management

Waste management of oil and oiled waste, generated during a response will be managed in line with the waste hierarchy (Figure 8.4) and existing Development waste management arrangements.

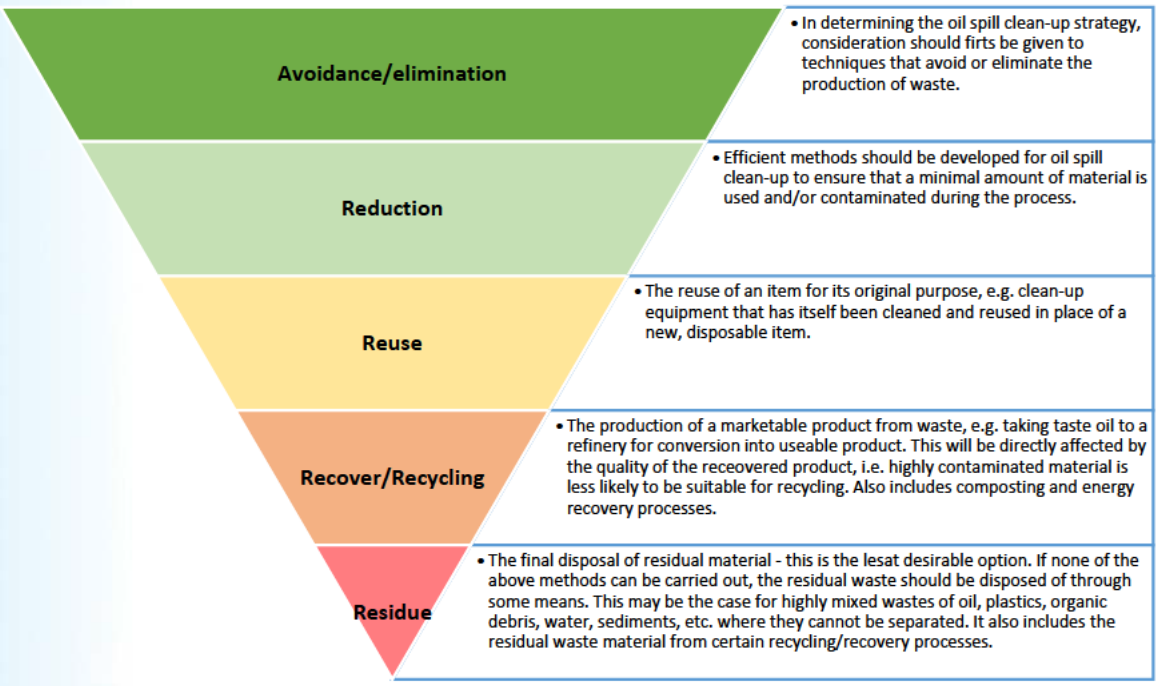

Figure 8.4 The 'waste hierarchy' is an efficient waste management system

Best practice dictates that:

- A health and safety plan is produced before any task involving the handling of waste oil is carried out;
- Oil and oiled debris should be segregated from uncontaminated waste;
- Segregated oil and oiled waste should be stored in a temporary storage facility;
- Consideration should be given to the capacity and management of the chain of transport, stage and treatment facilities;
- Consignments should only be handled by licensed waste carriers;
- Any waste transfers should be accompanied by a consignment note signed by both parties involved in the transaction such that it leaves a clear audit trail;
- Consignment notes should detail the volume and type of waste;
- Temporary storage sites for contaminated waste should be identified as near as possible to the potential clean-up sites identified in the risk assessment and shown on relevant maps; and
- Contact details for licensed waste carriers and disposal facilities should be included as well as for national licensing authorities.

8.9 Oiled Wildlife Response

A provision for dealing with oiled wildlife, particularly birds, needs to be carefully considered and a response policy decided in consultation with relevant authorities if appropriate. Appendix III also includes contact details for vets and specialist care organisations and identifies existing treatment centres or potential locations for establishing temporary centres.

Response strategies will be focused on minimising potential risks to wildlife, however in the event of an oil or chemical spill that may impact wildlife, the points in Table 8.7 below will be considered. The response will be proportionate to the circumstances of the incident and will take into considerations such as protected species and the time of year. Severe weather may restrict the ability to respond to oiled wildlife if the response would pose a risk to human health / life.

Equipment and trained personnel will be available – either directly employed by Moray East or contracted.

Table 8.6 Oiled wildlife response options (adapted from oiledwildlife.eu, 2018)

Aim	Actions that can be considered	What is "best practice"?	Handbooks and Guidelines that provide guidance
Prevent and minimise impacts on wildlife populations	Oil Combat at sea	Oil spill response plan; Availability of vulnerability maps that include (seasonal) distribution of vulnerable wildlife at sea; and Pre-identified biologists to assist with aerial surveillance and interpretation of real-time field data.	Handbook Wildlife Impact Assessment; and Guide to Oiled Wildlife Response Planning.
	Protect sensitive areas (booming off)	Availability of vulnerability maps that include (seasonal) distribution of vulnerable wildlife in coastal areas.	Handbook Wildlife Impact Assessment

Aim	Actions that can be considered	What is "best practice"?	Handbooks and Guidelines that provide guidance
	Deterrence and hazing	Have predefined plans in place with reference to effective species-specific methods.	North American handbooks: Bird Hazing Manual
	Pre-emptive capture	Having predefined plans in place, which include directions for the treatment and fate of captured animals.	Case studies in literature
Prevent the continued suffering of individual oiled animals	(Live animals) capture, clean, rehabilitate and release	Systematically search beaches; Operate rehabilitation facilities using internationally approved methodologies/protocols; Apply agreed triage criteria; Band animals that are ready to be released; and Conduct post release monitoring research.	Handbook on rehabilitation of oiled wildlife; and Guide to oiled wildlife response planning.
	(Live animals) capture, euthanise humanely	Systematically search beaches; Operate euthanasia facilities; and Have agreed euthanasia techniques.	Handbook on good practice for oiled wildlife rehabilitation; and Guide to oiled wildlife response planning.
Assess impacts on wildlife populations	(Dead animals) collect, quantify mortality per species	Systematically search beaches.	Handbook Wildlife Impact Assessment
Coordinated involvement of multiple stakeholders, including NGO's and volunteers	Operate a pre-spill defined plan Have formal agreements with authorities and stakeholders in place	Develop and agree an OWR plan before the incident, involving all responders within a clear, integrated command structure; and Have regular training and exercises based on the plan.	Guide to oiled wildlife response planning; and Examples from various countries in Europe.
Health, Safety and Environment	Health and safety of responders at all times as a matter of highest priority Minimise polluted waste and avoid secondary pollution	No wildlife response if health and safety of the responders cannot be guaranteed; Require minimum level of training from all accredited responders; Instruct and supervise volunteers; and Provide protective clothing.	Guide to oiled wildlife response planning; and Examples from various countries in Europe.

9 Performance Evaluation

This section explains how Moray East will monitor, evaluate and analyse ongoing Environmental Performance on the Development of the Principal Contractor and Contractors, and the implementation of the MPCP.

Figure 9.1: Performance Evaluation

9.1 KPIs

The MPCP has a number of key performance indicators that apply to the Principal Contractor and Contractors. These are intended to generate the data required to demonstrate current and future levels of compliance to both Moray East and MS-LOT.

The Principal Contractors and Contractors shall submit a report of their monthly and cumulative performance figures to the Moray East QHSSE Manager and ECoW by the end of the first working week of each month during the works.

Table 9.1: Key Performance Indicators

Key Performance Indicator Title	Details	Measure
Environmental Incidents and Near Misses	All environmental incidents and near misses on site	Number
Environmental Audits	Audits performed on site.	Number
Environmental Inspections	Inspections performed on site	% completed
HSE Observation Cards	Cards submitted (+ve or –ve)	Number of Cards
Environmental Toolbox Talks	Number of TBTs conducted	Number of TBTs
Environmental Training	Number of people involved in environmental training sessions	Number of attendees

Key Performance Indicator Title	Details	Measure
Licence or Condition Breaches	Determined from outputs of environmental incident reporting and audits.	Deviations from agreed design or method as set out in the ESs or consent discharge documents.
Emergency Communication Protocols	Knowledge of reporting chain/ability to communicate correctly in an emergency.	Pass/Fail

9.2 Inspection

Moray East shall conduct environmental inspections of the Works as part of routine activities. This may be done by a range of personnel and shall focus on the Principal Contractor and contractor's level of compliance. Such inspections shall include aspects relevant to this MPCP e.g. training and drills, spill kits etc. Offshore much of this will be done by the Moray East Client Representatives.

Furthermore, any persons authorised by MS-LOT, must be permitted to inspect the Works at any reasonable time. As far as reasonably practicable, Moray East, on being given reasonable notice by the MS-LOT (of at least 72 hours), will provide transportation to and from the Site for any persons.

The Principal Contractor and contractors shall support these inspections by allowing access (subject to reasonable notice) and shall also ensure that have their own arrangements set out in their MPCPs.

9.3 Audit

Auditing is an essential tool to ensure all MPCP arrangements are being fully implemented and that performance is continually improved. Audit requirements are set out in the following sections.

9.3.1 Moray East Internal Audit

Moray East shall ensure that a party independent of the Moray East team shall audit the internal application and ongoing suitability of the MPCP on an annual basis This may cover an aspect of the MPCP, but the priority will be the effectiveness of Moray East's monitoring of the Principal Contractor and contractors.

9.3.2 Moray East Client Audit

Moray East's ECoW, the QHSSE Manager, and the Moray East Offshore Client Representatives shall audit the Principal Contractor and contractors at a frequency to be agreed. This will be no more frequent than monthly. Where possible these shall be combined with any audits being conducted by the Principal Contractors or Contractors themselves.

These may cover any aspect of the Principal Contractor or Contractors' MPCPs, but the priority will always be those aspects with a significant role to play in complying with the Moray East Offshore Wind Farm Consents conditions.

9.3.3 Principal Contractor and Contractor Audit

The Principal Contractor and Contractors shall set out an indicative schedule for their own internal MPCP auditing. They will be required to show evidence on a monthly basis to the ECoW and QHSSE Manager that they are keeping up with their audit schedule and that they are closing out actions in a timely manner.

9.4 Evaluation of Consent/Licence Compliance

The ECoW shall, through a combination of their monitoring, inspections and audits produce an evaluation of ongoing compliance with the consents and licence conditions, and the relevant legislations.

This shall be documented in a monthly ECoW Compliance Report as shown in Appendix VI.

The Moray East QHSSE Manager shall also evaluate environmental legal compliance as part of the company's HSE Legal Compliance Procedure. This shall be done on an annual basis, following a suspected non-compliance, or as a consequence of trend analysis.

9.5 Lessons Learned

Either as part of or, in addition to any audit, inspection or investigation, the Principal Contractor and Contractors shall conduct 'Lessons Learned' sessions as required. The Moray East QHSE team and ECoW will support in this process as required, and may formally request that one takes place. The following instances may prompt a lessons-learned session:

- Following a particular milestone or phase;
- Following a particular operation;
- Following a perceived shift in performance levels;
- Following an incident;
- Following an audit;
- Following an inspection; and
- Following an investigation.

As a minimum Moray East, the Principal Contractor and Contractors shall conduct a joint lessons-learned session on an annual basis.

Should this process, or any other, generate environmental information worth sharing, Moray East shall inform MS-LOT and the wider industry.

9.6 Analysis and Evaluation

9.6.1 Monthly Analysis and Evaluation

All information generated in support of the MPCP (audits, monitoring, KPIs, lessons learned etc.) shall be analysed on a monthly basis by the QHSSE Manager. This is to identify any early warnings or short-term trends that suggest the Principal Contractor and Contractors are close to non-compliance.

9.6.2 Annual Analysis and Evaluation.

All information generated in support of the MPCP (audits, monitoring, KPIs, lessons learned etc.) shall be analysed on an annual basis. This shall be coordinated by the Moray East QHSSE Manager, with the support of the ECoW and the Offshore Consents Manager.

The output of this will be an annual report for the Project Director and Moray East Board.

9.7 Management Review

The Moray East Project Director and Moray East Board shall review the Annual Environmental Performance Report and make recommendations for change or improvement.

10 Improvement

This section presents the arrangements for improving the performance of the MPCP.

Figure 10.1: Improvement

10.1 General Improvement

Improvement does not always take place on a continual basis. Sometimes it occurs because of corrective action or innovation and sometimes because of reorganisation. Wherever the opportunity arises, Moray East shall aim to improve its arrangements and performance in line with good practice.

10.2 Nonconformity and Corrective Action

The Moray East Improvement Management Procedure applies to the implementation of this document.

It covers:

- Complaints;
- Potential non-conformance;
- Non-conformance;
- Risk-Based Action; and
- Corrective Action.

This is the mechanism with which Moray East will set out and track any actions taken to address the compliance issues of the Principal Contractor and Contractors.

All shall support that system and implement any actions placed upon them in a timely manner.

10.3 Continual Improvement

As part of commitment to continual improvement this document shall be reviewed 6 monthly, or as required.

This will use any of the outputs of the processes described in Section 9, Performance Evaluation, and have a focus on maintaining and/or increasing the levels of compliance.

10.3.1 MPCP Updates

As part of the improvement process, the impact of any changes to this MPCP contents is assessed and should they result in any variations to previously agreed mitigation, or a potential increase in environmental risk, then the revision shall be shared with the regulators for comment prior to issue.

Where this is not the case, the revision shall be shared with the Principal Contractor and Contractors only.

10.3.2 MPCP O&M Update

In terms of the Moray East Offshore Wind Farm Consents conditions Moray East shall, no later than 3 months prior to the final commissioning, submit an updated MPCP to cover the operation and maintenance activities for the Wind Farm and OfTI to the Scottish Ministers for their written approval. In line with this requirement, Moray East will submit an updated MPCP to MS-LOT for approval by the Scottish Minsters at least 3 months prior to the final commissioning of the Development.

The operational MPCP will reflect the working practices and potential environmental management issues set out in the approved OMP. The updated MPCP will focus on the activities associated with the operation and maintenance of the Development and incorporate any findings or lessons learned during the construction phase.

11 References

Beatrice Offshore Windfarm Ltd. (2016). Marine Pollutioin Contingency Plan. Beatrice.

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MCA. (2014). The National Contingency Plan - a Strategic Overview for Responses to Marine Pollution from Shipping and Offshore Installations. MCA.

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APPENDIX I – ENVIRONMENT POLICY

We consider that proactive environmental management generates value and constitutes the duty of any socially responsible company.

Our ambition in the international setting in which we operate is to be leaders and a benchmark in environmental management of business and in stakeholder involvement in the promotion and implementation of good practices in this field.

We foster a corporate culture in which the initiatives and activities making up our business are consistent with environmental responsibility and we encourage innovation and continuous improvement in products, services and environmental performance.

As a result, our organizational culture embraces the following values and guidelines:

- Incorporate respect for the environment and management of environmental aspects in all phases of business processes throughout the value chain and ensure that everyone involved, including suppliers, has the necessary, adequate skills for the purpose.
- Base relations with the authorities and other stakeholders on ethical principles of transparency, honesty and integrity.
- Constantly improve environmental performance, especially in the prevention of pollution and minimization of its impacts.
- Comply with the requirements of applicable environmental legislation as well as other, voluntary commitments.
- Manage environmental risks in order to eliminate or minimize the negative impacts of our activities both in normal circumstances and in the event of emergencies, accidents or disasters.
- Manage the impact on biodiversity of our business activities and seek an overall positive balance in this field.
- Foster the use of renewable energy sources and the best technologies in order to preserve natural resources and reduce and prevent pollution.
- Promote energy efficiency and the rational use of energy as one of the main options compatible with the sustainable use of resources.
- Consider stakeholders expectations in environmentally relevant processes and their communication.
- Promote knowledge and the dissemination of good practices in the environmental field.

Name	Title	Signature
	TBC	_____
	TBC	_____

APPENDIX II – HSE CHARTER

Moray East Project HSE Charter

The health, safety and welfare of people and the environment is Moray East's top priority.

Every company and individual working on the project shares this priority and promotes Moray East's core HSE values:

Leadership	we are all leaders, we are all responsible
Competence	we employ competent people
Performance	we assess all risks and we follow procedures
Culture	we think, we talk, we question and we accept challenge
Compliance	we know our obligations and we meet them
Improvement	we observe, we report and we learn

Signatures:

This page is intended to have signatures of Project Directors/MD of each one of our contracting partners.

The Charter will be displayed in every Moray East site and Office

APPENDIX III – KEY CONTACTS

List of all relevant contacts tbc

APPENDIX IV – CHEMICAL RESPONSE TECHNIQUES

Gases and Evaporators - The release of a gas or evaporating liquid chemical has the potential to generate vapour clouds that might be toxic or form an explosive mixture with air. In an open environment, toxic vapour will usually disperse as a result of natural air movement and often the only feasible response measure will be to monitor any vapour cloud/plume as it disperses. Due to the safety implications, when such incidents involving chemicals occur near onshore populations the local fire service often assume a commanding role in the response. Evacuations may be initiated, or else advice to remain inside and to close doors and windows will be issued. At sea, it may be possible to manoeuvre the affected vessel away from areas densely populated with other vessels to separate the incident from other personnel.

Floaters - Floaters may spreads across the water surface to form a slick. For spills involving relatively persistent chemicals that float, it may be possible to detect and monitor floating materials using techniques such as aerial surveillance and possibly satellite imagery. If safe, it may be possible to consider deploying booms to contain and control the movement of substances. Skimmers and other oil response equipment may also be used to recover material from the surface. Containment and recovery may not be advisable when dealing with highly toxic or flammable chemicals. In certain circumstances, sorbent materials may be deployed to collect and concentrate a chemical spill. Where it is a highly flammable or noxious substance released to sea, it is often preferable to allow natural dissipations to reduce concentrations to below harmful levels before initiating a physical clean-up response. However, where fire and explosion is a risk and legislation allows, emergency responders may apply fire-fighting or suppressant foams. In some cases, it may be possible to burn-off a floating chemical, but due consideration must be given to the possibility of the formation of toxic fumes leading to health and safety concerns for responders and the uncontrolled spread of the fire and smoke.

Dissolvers - The ability to contain and recover dissolved chemicals in extremely limited. Providing means to accelerate the natural processes of dispersion and dilution may be the only way to response to such chemicals. Some dissolved chemical plumes may, in theory, be neutralised, flocculated, oxidised or reduced by the application of other chemicals, but chemical treatment is unlikely to be practical and would not normally be recommended. Should treatment be decided upon as the best course of a response, the product used should have the following attributes:

- Be non-toxic;
- The neutralising process and by-products must be non-toxic;
- Have low biological oxygen demand (BOD);
- Be safe to use by trained personnel;
- Be easy to handle and store; and
- Be commonly available at a reasonable cost.

Sinkers - Chemicals that sink have the potential to contaminate the seabed and may persist in sediments. Response may therefore need to consider the recovery of any chemicals and heavily contaminated sediment. In shallow waters, mechanical dredgers and pump/vacuum devices may be used to recover materials. However, post-recovery of the contaminated sediments careful consideration will need to be given to the treatment and disposal of polluted material in line with the relevant legislation and principles.

Modelling of spill trajectory of chemicals should be undertaken by a specialist third party. Simulations may include vapour plume modelling for extremely volatile substances which could pose a major hazard if released and allowed to react with other chemicals or seawater. Computer modelling of the airborne contaminants is likely to assist in forecasting the movement, spread and fate of the plume as it disperses,

allowing safety zones to be established and advice disseminated to the general public. For floater chemical spills, some oil spill models may be applicable.

APPENDIX V – SPILL CHECKLISTS

Individual Spill observation and prompt checklists tbc

APPENDIX VI – MONTHLY ECoW COMPLIANCE REPORT

Moray East Offshore Wind Farm Monthly ECoW Compliance Report	
Reporting Period:	
Prepared By:	
Date of Report	
Other Contributors	TBC TBC TBC

Section 1 – Summary of Construction Activities Completed	
General Activities	
Foundations	
Cables	
Turbines	

Section 2 – Environmental Management Issues Arising			
Date	Activity	Environmental Incident/Issue	Resolution
Other comments			

Section 3 – Summary of Pollution Incidents Arising			
Date	Activity	Pollution Event	Resolution
Other comments			

Section 4 – Summary of Notifications Issued			
Date	Activity	Notices Issued	Issued to
Other comments			

Section 5 – Summary of Construction Activities Planned	
General Activities	
Foundations	
Cables	
Turbines	

Section 6 – Construction Programme Updates
Changes to scheduling of works

Section 7 – Additional Information
Anny addition information relevant to ECoW compliance and EMP reporting e.g. inspections, audits etc.

APPENDIX VII - MONTHLY ECoW COMPLIANCE REPORT (BUNKERING)

Moray East Offshore Wind Farm **Vessel Bunkering Plan**		
Date & time of Bunkering Offshore	**dd/mm/yy:**	**hh:mm:**
Vessel name/s: **Company Name/s:**		

Planned Bunkering Schedule: (Example: 'x' cubes of liquid 'y', from vessel 'a' to offshore substation 1)

Bunkering Equipment Involved: (Examples: hoses, lifting arrangements)

Confirmation of Bunkering Completed: (Example: 'x' cubes of liquid 'y', from vessel 'a' to offshore substation 1)

Details of any spills or problems:

Signature(s) of personnel completing form:
Vessel Representative Name (BLOCK CAPITALS):
Vessel Representative Signature:
Company Representative Name (BLOCK CAPITALS):
Company Representative Signature
Ecological Clerk of Works Name (BLOCK CAPITALS):
Ecological Clerk of Works Signature:

MORAY EAST
OFFSHORE WINDFARM

Contact

Moray Offshore Windfarm (East) Limited
5th Floor, Atria One, 144 Morrison Street
Edinburgh EH3 8EX
Tel: +44 (0)131 556 7602