

Code of Construction Practice Appendix 7 Project Environmental Management Plan

DCO Requirement 22 (2) (k)

(Applicable to Work Numbers 5B to 69)

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Revision Summary				
Rev	Date	Prepared by	Checked by	Approved by
1	05/10/2021	K Griffin	P Williamson Rew-	G Mills
2	13/12/21	K Griffin	P Williamson Rew-	G Mills
3	30/03/22	K Griffin	P Rew- Williamson	G Mills

Description of Revisions			
Rev	Page	Section	Description
1	ALL	ALL	New Document
2	ALL	ALL	Amended in accordance with comments received on the Interim Draft Document from: ESC (27/10/2021); MSDC (03/06/21, 21/06/21, 13/10/21 11/02/21); and SCC (03/06/21 and 21/06/21)
3	5 11,12 20 21 24 26	1.1 3.3 6.7 6.8.1 6.16.2 6.18	Amended in accordance with comments received on the Final Draft Document from ESC (15/02/22)

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1. INTRODUCTION AND SCOPE

1.1. Project Overview

1. East Anglia Three Limited (EATL) was awarded a Development Consent Order (DCO) by the Secretary of State, Department of Business, Energy and Industrial Strategy (DBEIS) on 7 August 2017 for the East Anglia THREE Offshore Windfarm (EA THREE). The DCO granted consent for the development of a 1200MW offshore windfarm and associated infrastructure and is live until 28 August 2022. The DCO has now been subject to three non-material variations:
 - In March 2019 EATL submitted a non-material change application to DBEIS to amend the consent to increase the maximum generating capacity from 1,200MW to 1,400MW and to limit the maximum number of gravity base foundations to 100. In June 2019 DBEIS authorised the proposed change application and issued an Amendments Order.
 - In July 2020 EATL submitted a second non-material change application to DBEIS to amend the parameters of its offshore substations (reducing the number of these to one) and wind turbines (a decrease in the number of turbines and an increase in their hub height and rotor radius). On 15 April 2021 DBEIS authorised this proposed change application and issued an Amendments Order.
 - In August 2021 EATL submitted a third non-material change application to DBEIS to amend the consent to remove the maximum generating capacity of 1,400MW and to amend the parameters of its wind turbines (a decrease in the number of turbines and an increase in their hub height and rotor radius). The application is currently in the consultation phase.
2. The onshore construction works associated with EA THREE will have a capacity of 1400MW and transmission connection of 1320MW. The construction works will be spread across a 37km corridor between the Suffolk coast at Bawdsey and the Converter Station at Bramford, passing the northern side of Ipswich. As a result of the strategic approach taken, the cables will be pulled through pre-installed ducts laid during the onshore works for East Anglia ONE Offshore Windfarm (EA ONE), thereby substantially reducing the impacts of connecting to the National Grid (NG) at the same location. The infrastructure to be installed for EA THREE, therefore, comprises:
 - The landfall site with one associated transition bay location with two transition bays containing the connection between the offshore and onshore cables;
 - Two onshore electrical cables (single core);
 - Up to 62 jointing bay locations each with up to two jointing bays;
 - One onshore Converter Station, adjacent to the EA ONE Substation;
 - Three cables to link the Converter Station to the National Grid Bramford Substation;
 - Up to three onshore fibre optic cables; and
 - Landscaping and tree planting around the onshore Converter Station location.
3. Since the granting of the DCO, the decision has been made that the electrical connection for EA THREE will comprise a high voltage direct current (HVDC) cable rather than a high voltage alternating current cable and, therefore, the type of substation that will be required is a HVDC Converter Station. The substation will, therefore, be referred to here as a 'converter station' and this amended terminology has been agreed with the relevant authorities on 15 October 2020. It has also been determined that only one converter station will be constructed rather than two and that the Converter Station will be installed in a single construction phase.

1.2. Scope and Purpose

4. This document has been produced to discharge DCO Requirement 22 parts (1) and (2) which states:

22- (1) No stage of the connection works may commence until for that stage a code of construction practice (which must accord with the outline code of construction practice) has been submitted to and approved by the relevant local planning authority, in consultation with the relevant highway authority.

(2) The code of construction practice must include—

(k) a project environmental management plan;
5. The purpose of this EA THREE Project Environmental Management Plan (PEMP) (referred to hereafter as the PEMP) is to set out the environmental management approach and controls that shall be adopted by the Employer (i.e. EATL) and Contractors for the EA THREE onshore works (i.e. for the Converter Station and onshore cable installation). This document aims to describe the anticipated environmental risks and corporate and consented commitments as per the DCO requirements and associated mitigations for the

onshore execution phase of the project. This document aligns with the internal EA Hub Environmental Management Framework Plan (EMFP) document, which sets out the approach and framework of controls that will be adopted to manage environmental risks during the lifecycle of the EA Hub development windfarms (i.e. EA THREE and also EA ONE NORTH Offshore Windfarm and EA TWO Offshore Windfarm).

6. This PEMP shall apply to all personnel working for, or on behalf of the EA THREE development (Employer and Contractors) including any associated sub-contractors. This PEMP is considered to be an iterative document that develops throughout the various phases of the project. A copy of further revisions of the PEMP will be provided to the local planning authorities for information.
7. The PEMP covers all the onshore construction activities, including enabling works, onshore cable installation, temporary works such as haul roads and Construction Consolidation Sites (CCS), converter station construction and reinstatement works. Local environmental management controls will be put in place for any pre-construction activities such as field surveys. The document covers all the onshore works inland from Mean Low Water Springs.
8. The Outline Code of Construction Practice (OCoCP) advises that the PEMP shall include:

Requirement of OCoCP	Location within this PEMP
How EATL will manage environmental risks associated with the development, including the onshore construction works, including specific control measures necessary to deliver the requirements of the Code of Construction Practice (CoCP) (of which this PEMP is Appendix 7) and any other mitigation measures that have been committed to and that relate specifically to the construction phase of the project.	Section 6
The minimum requirements, for inclusion within each individual Construction Environmental Management Plan (CEMP) to be produced by contractors, setting out guidance and best practice that must be implemented as works environmental control measures.	Section 7.4.1
A comprehensive list of the positions relating to clerks of works, officers etc.	Section 4.3
Details of site security measures.	Section 6.19
Details of standard noise and vibration mitigation techniques, such as specified working times and use of low noise emitting plant and equipment.	Section 6.9
An Air Quality Monitoring Plan (AQMP)	Section 6.11
Mitigation measures in respect of dust.	Section 6.11
Controls associated with the delivery, storage and handling of hazardous materials and in particular oils and fuels).	Sections 6.7
Mitigation measures in respect of pollution prevention.	Section 6.18

Requirement of OCoCP	Location within this PEMP
Monitoring of waste arisings, transfers and disposals will be monitored by the appointed Contractor(s) through the Site Waste Management Plan. Day to day monitoring of waste storage facilities will be undertaken by the Contractor's environmental management representative and Environmental Clerk of Works (EnvCoW) throughout the construction phase	Section 6.8
A Pollution Prevention Plan and Emergency / Incident Response Plan	Section 6.18
Mitigation measures for private water supplies which will be monitored by the EnvCoW throughout the construction phase	Sections 6.2 and 6.6
A monitoring programme for environmental aspects.	Section 8

1.3. Background

37. EATL is a wholly owned subsidiary of ScottishPower Renewables Limited (SPR), a part of the IBERDROLA Group.
38. The EA THREE Environmental Statement (ES) forms the basis of the consented project and was developed using the "Rochdale Envelope" approach; that is, to define a range of project parameters against which potential impacts are assessed.
39. The EA THREE DCO granted by the Secretary of State has a number of requirements held within certified documents, these are legal requirements. Compliance with these requirements are the responsibility of all those who are involved in the project internally and externally, including all suppliers and Contractors.
40. Construction is expected to commence in 2022. After construction and commissioning, the onshore constructed assets will be transferred to the OFTO (Offshore Transmission Owner).

2. ABBREVIATIONS

AQMP	Air Quality Monitoring Plan
CCS	Construction Consolidation Site
CBS	Cement Bound Sand
CEMP	Construction Environmental Management Plan
CIRIA	Construction Industry Research and Information Association
COSHH	Control of Substances Hazardous to Health Regulations
CoCP	Code of Construction Practice
DBEIS	Department of Business, Energy and Industrial Strategy
DEFRA	Department for Environment, Food and Rural Affairs
DCO	Development Consent Order
EA	Environment Agency
EA ONE	East Anglia ONE Offshore Windfarm
EA ONE NORTH	East Anglia ONE NORTH Offshore Windfarm
EATL	East Anglia THREE Limited
EA TWO	East Anglia TWO Offshore Windfarm
EA THREE	East Anglia THREE Offshore Windfarm
EA Hub	East Anglia Hub (EA ONE NORTH, EA TWO and EA THREE Projects)
ECOW	Ecological Clerk of Works

ERP	Emergency Response Procedure
ERT	Emergency Response Team
ES	Environmental Statement
ESOR	Environmental and Safety Observation Reports
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EMFP	Environmental Management Framework Plan
HSE	Health, Safety and Environment
HVDC	High Voltage Direct Current
IDB	Internal Drainage Board
LPA	Local Planning Authority
MSDS	Material Safety Data Sheet
MW	Megawatts
NCR	Non-Conformance Report
NE	Natural England
NG	National Grid
PEMP	EA THREE Project Environmental Management Plan
PP&EIRP	Pollution Prevention and Emergency Incident Response Plan
PWS	Private Water Supplies
RAMS	Risk Assessment and Method Statement
RPS	Regulatory Position Statement
SSSI	Site of Special Scientific Interest
SPA	Special Protection Area
SPP	Species Protection Plan
SPR	ScottishPower Renewables
SWMP	Site Waste Management Plan
TBT	Tool Box Talk
WSI	Written Scheme of Investigation

3. EXECUTIVE SUMMARY

41. The PEMP details the environmental requirements relating to the delivery of the onshore works. It requires the appointed Contractors to be fully aware of the content of the documents contained in this document and to follow the information and recommendations held within. It is the responsibility of the Contractors to ensure that their planning, programming and costing consider and detail this within their proposals.
42. This document includes various appendices, references and deliverables that the Contractors must incorporate into their management arrangements. In addition, the PEMP signposts to regulatory documents such as the DCO, which are available online. The Employer has produced via a number of detailed mitigation strategies and plans to discharge the various requirements of the DCO. All Contractors must make themselves aware of the content of these documents, which they must fully understand, implement and include reference to in their documentation. The Employer expects a high standard of environmental performance to industry best practice from all its Contractors and their sub-contractors.

3.1. Relevant Documentation

43. Related documents to this PEMP are set out below and include Employer internal documentation, not available for Contractor use, that is relevant to the Employers Environmental Management System (EMS) and forms the basis for internal auditing. Documentation available for Contractors to refer to in order to fulfil their environmental requirements are listed as external. Not all documents may be available at the time of the issue of this PEMP.

Table 3-1 Relevant Documentation

Reference	Internal/ External	Title
Public – Planning Inspectorate	External	<p>The East Anglia Three Offshore Wind Farm Order 2017 (Correction Notice 2018) https://infrastructure.planninginspectorate.gov.uk/projects/eastern/east-anglia-three-offshore-wind-farm/?ipcsection=docs&stage=6&filter1=Development+Consent+Order</p>
Public – Planning Inspectorate	External	<p>Planning and outline documents available at the links below: EA THREE: https://infrastructure.planninginspectorate.gov.uk/projects/eastern/east-anglia-three-offshore-wind-farm/?ipcsection=docs&stage=app&filter1=Environmental+Statement</p> <p>Developers Consent Application Documentation; Environmental Statement (ES) and outline documents, please use link above to access all documents including:</p> <ul style="list-style-type: none"> • Outline Written Scheme of Investigation Archaeology and Cultural Heritage Onshore • Outline Traffic Management Plan • Draft Great Crested Newt Licence Application • Outline Travel Plan • Outline Landscape and Ecological Management Strategy • Outline Code of Construction Practice • Outline Access Management Plan • Outline Temporary Works Reinstatement Plan <p>Note: Outline documents to be replaced by final documents for approval by the local planning authorities and relevant consultees (as required) (see following row)</p>
Publicly Available	External	<ul style="list-style-type: none"> • EA THREE DCO Schedule 1 Part 3 – Requirements; no stage of the construction works will commence without the following Consent documentation being discharged for that stage by the relevant Local Authority; please refer to online reference for full list of Requirements, below are specifically important for environment: <ul style="list-style-type: none"> • Stages of Development (Requirement 11) • Design Details – Converter Station (Requirement 12) • Landfall Method Statement (Requirement 13) • Landscape Management Plan (Requirement 14) • Access Management Plan (Requirement 16) • Traffic Management Plan (Requirements 16 and 27) • Fencing and Enclosure Plan (Requirement 17) • Surface and Foul Water Drainage Management Plan (Requirement 18) • Contaminated Land and Ground Water Plan (Requirement 19) • Written Scheme of Archaeological Investigation (Requirement 20) • Ecological Management Plan (Requirement 21) • Code of Construction Practice (Requirement 22) which includes the following additional plans: <ul style="list-style-type: none"> • surface water and drainage management plan • watercourse crossing method statements • flood plan • written scheme for noise and vibration management during construction • air quality monitoring plan • artificial light emissions plan • site waste management plan • pollution prevention and emergency incident response plan

Reference	Internal/ External	Title
		<ul style="list-style-type: none"> • project community and public relations procedure • public rights of way management plan • project environmental management plan (this document) • Artificial Light Emissions Plan (Requirement 23) • Noise and Vibration Management Plan (Requirement 24) • Travel Plan (Requirement 27) • Port Travel Plan (Requirement 28) • European Protected Species Plan (Requirement 29) • Restoration Plan (Requirement 30) • Reuse of Temporary Works Plan (Requirement 36) <p>Note: Contractors must support and provide detailed information for the production of these documents, (e.g. method statements) within agreed timescales prior to submission to the local planning authorities and relevant consultees, as required, for final discharge.</p> <p>Above documents are to be made publicly available via the SPR website, once approved and the relevant Requirements discharged.</p> <p>Employer and Contractors must comply with all aspects of all the consent throughout the project.</p>
IBRO-OEMS-PO01	External	IBERDROLA Offshore Renewables Environmental Policy
UKEN-POL-EMPLOYER0002	External	SPR Environmental Behaviours
IBRO-OEMS-FO01	External	Onshore Environmental Incident Record Form
OFHS-GFR-000010	External	Contractor Monthly Accident / Incident HSE Report Form
EAH-GEN-HSE-PLN-IBR-000025	External	EA Hub Emergency Response Plan
TBC	External	Project Construction Method Statements
NA	Internal	Worldlex Legal Register
EAH-GEN-ENV-PLN-IBR-000271	Internal	EA Hub Environmental Management Framework Plan
TBC	Internal	EA Hub Project Execution Plan
TBC	Internal	EA Hub Risk Register
TBC	Internal	Change Management Procedure
TBC	Internal	Project Training Matrix
TBC	Internal	Project Environmental Meeting Minutes
EAH-GEN-QUA-PRO-IBR-000005	External	EA Hub External Provider Document Management Procedure

Reference	Internal/ External	Title
TBC	External	EA Hub Onshore Environmental Inspection Template
TBC	External	Project Environmental Constraints Matrix

3.2. Contractor Obligations

45. Contractors have an obligation to be fully aware, and be compliant with the content, of all relevant documents.

3.3. Contractor Deliverables

46. Table 3-2 lists the deliverables (where applicable) that must be provided by Contractors, this table is not exhaustive:

Table 3-2 Contractor Deliverables

Contractor Deliverables	
1	Project Specific Construction Environmental Management Plan
2	Project Specific Legal Register
3	Project Specific Aspects and Impacts Register
4	Project Specific Risk Register
5	Control of Substances Hazardous to Health (COSHH) Register and assessments, Material Safety Data Sheets (MSDSs), mitigation measures (spreadsheet format)
6	Monthly HSE Reporting Statistics
7	Ecological Clerk of Works
8	Environmental / Ecological Surveys
9	Reporting of environmental incidents as per Employer requirements
10	Project Specific Surface Water and Drainage Management Plan
11	Project Specific Haul Road and Access Designs
12	Project Specific Water Monitoring Regime
13	Project Specific Noise and Vibration Management Plan
14	Project Specific Artificial Light Emissions Management Plan
15	Project Specific Air Management/Monitoring Plan
16	Project Specific Soil Management Plan
17	Project Specific Pollution Prevention and Emergency Incident Response Plan
18	Project Specific Recycled Aggregate Use Plan (If Contractor wishes to use)
19	Project Specific Abstraction and Discharge proposals, applications and licences/ permits
20	Project Specific Waste Data and Fuel Use Data
21	Project Specific Environmental Induction / Tool Box Talks (TBTs) / Training Workshops / Attendance Sheets
22	Consent related documentation & reporting (to be confirmed through the consenting process)

47. In order to satisfy the Local Planning Authorities (LPAs) that the above plans have been prepared in accordance with the agreed Requirement Discharge Documents (RDDs) (prepared in accordance with the DCO), a workshop will be held with the LPAs to discuss the details of the above plans. The Principal Contractors will be available at the workshop to present the site-specific details of their plans.

48. The workshop will be followed up by a quarterly consent compliance audit undertaken by SPR's Consents Compliance Team, against the commitments in the RDDs using the RDD Consent Compliance Register. The results of these audits will be reported to the LPAs, including any identified failings, and measures to address these. This will ensure the Principal Contractors' compliance with the commitments made in the RDDs.

4. ENVIRONMENTAL MANAGEMENT

4.1. Environmental Management System

49. The Employer maintains an EMS for their global offshore renewables business to provide a systematic framework for risk management, legal compliance and pollution prevention. The EMS (consistent with the principles of ISO 14001) comprises of a combination of established Employer central business environmental management procedures supplemented by relevant project specific documentation. The EMS is based on the Plan-Do-Check-Act framework.

4.2. Environmental Policy

50. The Employer has an Environmental Policy (IBRO-OEMS-PO01), signed by the Managing Director of the IBERDROLA Renewables Offshore business, which sets out key commitments, covering the following items:

- Environmental Protection
- Regulation and Standards
- Environmental Objectives (reducing greenhouse gas emissions, waste management and sustainable consumption of resources)
- Environmental Performance
- Supply Chain
- Stakeholder Engagement
- Training, Awareness and Competence
- Research and Innovation

51. All Contractors working on behalf of Employer, are required to be aware of the IBERDROLA Renewables Offshore Environmental Policy and how it relates to their scope of work and related activities. A copy of this Environmental Policy is provided in Appendix 1.

52. The Environmental Policy is supplemented by the SPR Environmental Behaviours (UKEN-POL-EMPLOYER0002). All Contractors are required to be aware of and follow the Environmental Behaviours as detailed in Appendix 2.

4.3. Roles and Responsibilities

53. Table 4-1 details the roles and responsibilities associated with Employer Project Management, Package Management, Environmental Management and Contractor Environmental Management. These lists are not exhaustive.

Table 4-1 Key Employer and Contractor Environmental Management Roles and Responsibilities

EATL Project Management	
Project Director	
<ul style="list-style-type: none"> • Overall responsibility for ensuring that the EA THREE project complies with all applicable environmental legislation. • Overall responsibility for the discharge of development consent and licence requirements. • Overall responsibility of the allocation of proper resources for appropriate execution of the project. 	
Project Execution Director / Project Delivery Manager	
<ul style="list-style-type: none"> • Responsible for the implementation of this PEMP and to ensure that all project personnel are made familiar with and undertake their duties in compliance with the requirements detailed in this plan. • Responsible for ensuring that the required controls, permits/ licences and resources are in place to manage the environmental risk associated with EA THREE. • Responsible for communicating environmental performance and correspondence to the project teams. 	

EATL Package Management Team

Individual Package Managers / Execution Support Managers / Grid Execution Managers

- Implement the PEMP, procedures and controls into their section(s) of the project.
- Ensure management of project environmental aspects and associated risks and consent obligations are considered as part of the Contractor selection process.
- Communicate the requirements of this PEMP and any consent obligations to the Contractors working on the project.
- Provide EA THREE environmental management personnel with Contractor environmental management documentation and scope of work Risk Assessments and Method Statements (RAMS).
- Ensure environmental reviews are conducted on Contractor performance.
- Monitor project work and ensure requirements of relevant environmental documents, licences and consents are being complied with.
- Assist with environmental related visits, incidents, inspections or audits.

EATL Environmental Management Team

Project Environment Manager

- Preparation, review and update of environmental related project documentation.
- Participate and provide environmental management support in design and hazard review meetings.
- Engagement with the Package Management Team to communicate environmental compliance requirements and environmental management standards.
- Provide monthly updates on environmental management activities to Project Management Team and the Environment and Compliance Manager.
- Review and assessment of Contractor environmental management pre-qualification and tender return documents.
- Provide environmental management support in relation to the preparation of contract schedules and associated documentation.
- Post contract award, review site documentation to ensure that it meets contract requirements, minimum environmental management standards and environmental consent obligations, in liaison with the project Health & Safety Manager and the Environmental Management Team.
- Undertake environmental audits / inspection in accordance with project audit programme - both field works and supply chain.
- Attend initial kick off meetings with major Contractors.
- Review Contractor and project documentation and provide environmental management support to Site Works Committees and Approval to Work Meetings.

Project Environmental Advisors

- Provide environmental management support to the EA THREE project and EA THREE Environmental Manager as required.
- Ensure that the requirements within the Employer Environment Policy, environmental legislation and standards and Project Construction Environmental Management Plan and procedures are being complied with on site.
- Receive and review Contractor EMPs, relevant RAMS and work with project management to approve submitted documents.
- Review Contractors' environmental documentation, with particular emphasis on the delivery of compliance with environmental regulations and DCO requirements.

- Undertake environmental inspections and audits in line with inspection programme / audit schedule and record and communicate associated findings.
- Where required, raise Non-Conformance Reports (NCRs) against Suppliers / Contractors, review evidence and close out.
- Ensure actions from audits, inspections and environmental meetings are closed out in timely manner.
- Arrange and attend environmental management meetings and project update meetings (internal/external).
- Attend meetings with Contractors to review and discuss environmental aspects of the work.
- Develop and deliver environmental awareness training (including site inductions) to both internal and external parties working on EA THREE.
- Facilitate environmental project meetings with Contractors, attend project meetings and represent environmental interests.
- Provide monthly environmental performance reports to the Environment Manager and relevant Package Managers.
- Hold all relevant environmental site level documents.
- Communicate and liaise with the central / project Health Safety & Environmental teams on a regular basis.
- Collate environmental incidents/near miss statistics from all Contractors on the project and submit report to project management team using established Employer procedures (in liaison with Health & Safety team).
- Lead or assist with environmental incident investigation as applicable. Support with the management and coordination of pollution incidents.
- Liaise with and support provision of specialist support, to include Ecological Clerk of Works (EcoW), arboriculturist, and archaeologist.
- Liaise with all regulators and statutory bodies as and when required and agreed with Employer Environmental team.
- Ensure that EA THREE project Contractors report environmental incidents as per project protocols.
- Liaise with the Consents Team as required regarding development consent compliance.
- Liaise with the Employer Environmental Team and provide support in relation to business / project environmental reporting.

Onshore Contractors

Contractor Environmental Manager

- Regular contact with the EA THREE Environmental Team.
- Ensure all environmental consent, legal and contractual requirements are understood and communicated.
- Ensure all environmental documentation is project specific.
- Produce Construction Environmental Management Plan specific to the scope of works referencing all relevant documentation and demonstrating how requirements will be implemented in advance and during works.
- Ensure incidents are reported and investigation is completed and closed out.
- Produce environmental statistics as requested by the Employer.
- Raise NCRs, investigate and close out with plans for improvements.
- Promote a culture of continual improvement for the environment, including inspections, completion of actions, training, implementation of lessons learnt, etc.
- Ensure legal registers are up to date and changes communicated.
- Regularly review risk register and ensure significant risks are communicated to the Employer.
- Ensure personnel with key environment related responsibilities are competent and aware of relevant procedures.
- Ensure appropriate environmental training of Contractor's team is current and training records are up to date.
- Ensure that requirements in the Contractor's environmental management documents such as the CEMP, Site Waste Management Plan (SWMP) and Surface Water and Drainage Management Plan are implemented on site.

- Review relevant work RAMS and coordinate with project management to approve submitted documents.
- Assist in ensuring chemical risk assessments are completed where required and chemical management is in line with COSHH requirements.
- Review environmental documentation, accepting feedback from Employer in relation to legal, consent or Employer requirements.
- Stop works from proceeding if in their opinion work activities are either not environmentally compliant or are not being delivered in accordance with the site-specific RAMS, consent, legal or Employer requirements.

Contractor Environmental Clerk of Works/Environmental Advisor

- Regular contact with the EA THREE Environmental Team.
- Support the Contractor Environmental Manager and workforce on environmental matters.
- Ensure environmental requirements are implemented in advance and whilst works proceed.
- Undertake regular and recorded environmental specific inspections on site and raise and close out associated actions.
- Resolve and investigate environmental incidents, report findings and actions required. Ensure incidents are reported as per Employer requirements.
- Available to organise and participate in joint site inspections/ audits with the Employer.
- Attend routine site environmental meetings and ensure prevailing environmental issues are being highlighted and managed effectively.
- Ensure site environmental documentation such as the Contractor's EMP and SWMP are reviewed and updated, and that relevant environmental documents such as Waste Transfer Notes (WTNs) are filed and retained.
- Complete frequent environmental TBTs related to environmental aspects, site sensitivities, Employer and consent requirements.
- Ensure environmental mitigation measures are implemented and maintained.
- Coordinate additional environmental monitoring requirements in accordance with site risks, DCO requirements and in response to any complaints.
- Ensure COSHH management of all chemical substances is maintained in accordance with legal requirements.
- Communicate all environmental publications on EA THREE to workforce.

Contractor Environmental Advisor Team

- In addition to the Environmental Manager and Environmental Clerk of Works, the Contractor's Environmental Advisor Team will include the following additional roles. The responsibilities of each role and any necessary qualifications are set out in the relevant Employer management plan:
 - Traffic Co-ordinator;
 - Travel Plan Co-ordinator;
 - Port Travel Plan Co-ordinator;
 - Archaeology Watching Brief;
 - Ecological Clerk of Works; and
 - Arboricultural Clerk of Works.
- Contact details and qualifications of the above personnel will be provided to MSDC prior to commencement of construction.

5. PROJECT ENVIRONMENTAL OBJECTIVES AND TARGETS

54. Project environmental objectives are set to support IBERDROLA business wide environmental objectives and to align with environmental policy commitments contained in SPR Environmental Policy. Environmental objectives for EA THREE include:

- Protect environmental receptors through the generation and implementation of procedures that eliminate or mitigate potential impacts on the environment;
- Comply with all relevant environmental legislation, regulatory consents, permits and licences;
- Report and action all environmental incidents within agreed timeframes;
- Appoint competent suppliers and contractors, through detailed assessments and audits;
- Establish and monitor key environmental performance indicators; and
- Develop and deliver environmental training and awareness to support the project objectives.

55. Targets to support the project environmental objectives will be developed by the EA THREE Environmental Team.

5.1. Compliance Obligations

56. The Employer and Contractors on EA THREE are required to comply with a range of consent, permit and license commitments. Compliance with regulatory and legislative requirements is a key environmental policy commitment. The required consent, permits and licences are set out as follows:

- Water quality and flood risk – each CoCP;
- Ecology –each Ecological Management Plan
- Traffic and Transport – each Access and Management Plan and Traffic Management Plan.

5.1.1. Legal Register

57. It is the Employer's policy to minimise the impact of its construction activities on the environment by complying with all relevant legislation. A legal register will be produced, maintained and reviewed by the Employer on a periodic basis and remains an internal document.

58. Contractors are required to create a project specific legal (environmental) register relevant to the work activities. The Employer will request to review and audit the legal register during the lifespan of the project. Contractors must ensure that their legal register is maintained, updated and communicated. Legislative changes shall be monitored and if a relevant legislative change is identified, the Contractor shall implement the requirements of the change and will notify Employer in doing so.

59. Each Contractor will be responsible for applying for and obtaining any environmental permits/licenses/ exemptions related to their activities unless otherwise agreed with the Employer.

60. Work activities shall not commence unless the necessary environmental consents and licenses have been obtained.

5.1.2. Development Consent Order

61. The DCO and associated documents set out various environmental related commitments. These commitments will be communicated to Contractors via the Employer Contract Schedules / amendments and it is the Contractor's responsibility to ensure that their works are executed within the Order Limits and under the provision of the relevant licences and consent conditions and any relevant additional licences and approved prior to works proceeding and in line with this PEMP.

62. Contractors should be aware of the scope of the DCO, their legal responsibilities and duties relevant to their activities and the need for any additional licences. The Employer and EA THREE Contractors will seek pre-emptive licenses for those foreseeable activities (if out with the original consent definition) to avoid any potential risk related to delay/costs and will also monitor legislative change to ensure legislative changes applicable to the scope of works are implemented accordingly.

63. Prior to the Operational phase, the scope of the DCO shall be reviewed to ensure that any additional operational licence and consenting requirements are understood and applied for, as required. This may apply to both the Employer and relevant Contractors associated with operational activities.

64. Ongoing operational obligations will be identified by the Employer's Consents Team and will form part of the EA THREE Operational Phase commitments.

6. ENVIRONMENTAL RISK MANAGEMENT

65. The Employer has established a project Risk Register that will maintain hazard identification, risk management and agreed mitigation approaches, for the duration of the EA THREE project. The objective of the Risk Register is to ensure that scopes of work under the project Contracts are conducted without unacceptable risk to personnel, assets and the environment.
66. The Employer supports the project objectives to ensure that works are planned, constructed, operated and maintained without unacceptable impact to the environment.
67. Throughout the life cycle of the project (from design to commissioning), environmental hazards will be identified, and controls put in place to mitigate the risk of the identified hazards impacting the environment. Risks identified through impact assessment and consent phase, design reviews, HAZIDs, RAMs, meetings, inspections and audits and root cause analysis from incidents will be documented for action.
68. The basis of this approach is to focus on the early identification, evaluation, mitigation, control and review of risks. In all cases, personnel shall be required to select control measures based upon reasonable practicality and the application of a standardised hierarchy of controls.
69. In all cases, the preferred methods for controlling hazards shall be in the following order:
- Elimination
 - Substitution
 - The application of engineering controls
 - Administrative / procedural controls
 - Pollution response equipment
70. Inspections and audits will also be undertaken to verify that the consent commitments, legal and Employer requirements have been implemented. Risks identified during this process will be documented on the project Risk Register. All Contractors must manage risks as above and document this process to demonstrate due diligence and proactive planning in relation to mitigating risks to the environment. The Contractors must provide and maintain a project specific Risk Register.

6.1. Environmental Aspects and Impacts

71. To ensure the appropriate control measures are in place to manage environmental risks, the Employer is required to identify the environmental aspects (activities that can interact with the environment) and significant impacts (any change to the environment, whether adverse or beneficial, wholly or partially resulting from EA THREE environmental aspects, as described as significant in the EA THREE ES) under normal, abnormal and emergency conditions.
72. These identified aspects and impacts are included in a project Aspects and Impacts Register (included as Appendix 3) and if necessary, the project Risk Register. To ensure the information generated by the aspects and impacts register remains relevant to project activities, a review of environmental aspects will be undertaken annually as a minimum.
73. It is the Employer's expectation that all Contractors are ISO 14001 accredited and that they too follow a similar process of identifying environmental risks within their scope of works and implement necessary mitigation measures. During audits and inspections, the Employer may request to review the output of the Contractor's assessment process and this will be made available upon request. The Contractor must provide and maintain a project specific Aspect and Impact Register.

6.2. Surface Water and Drainage Management

74. It is essential that surface water and drainage management is assessed and planned for, taking into consideration, as a minimum, the following: access routes, haul roads, CCSs, working areas, topographical data (terrain / slope angles), geotechnical data (soils / geology), locations to store stripped and side cast material, location of water receptors (watercourses, private water suppliers, groundwater and estuaries) and flooding.

75. Contractors shall provide a detailed project specific Surface Water and Drainage Management Plan, in accordance with the Surface Water and Drainage Management Plan provided by the Employer to discharge Requirement 18 of the DCO. The plan shall include but not be limited to:

- Site details including location and site plans showing location of water receptors, watercourse crossing points and land drainage;
- Drainage design rationale considering local topography, surface geology, rainfall, infiltration rates and run-off potential;
- Proposed methods of surface water control, treatment and mitigation;
- Discharge locations and timeframes (especially where anticipated to exceed 3 months);
- Consent / licence / permit requirements;
- Inspection, monitoring and sampling arrangements; and
- Contingency arrangements.

76. The Surface Water and Drainage Management Plan shall consider:

- Consent and compliance obligations
- Regulator guidance such as the Environment Agency temporary dewatering from excavations to surface water <https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-to-surface-water/temporary-dewatering-from-excavations-to-surface-water-and-treatment-and-use-of-water-containing-concrete-and-silts> <https://www.gov.uk/government/publications/treating-and-using-water-that-contains-concrete-and-silt-at-construction-sites-rps-235/treating-and-using-water-that-contains-concrete-and-silt-at-construction-sites-rps-235>
- SEPA *Engineering in the Water Environment Good Practice Guide Temporary Construction Methods* https://www.sepa.org.uk/media/150997/wat_sg_29.pdf
- Industry good practice such as CIRIA guidance documents, including Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156), Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C532), Control of Water Pollution from Linear Construction Projects – Technical Guidance (C648) and Control of Water Pollution from Linear Construction Projects – Site Guide (C649).

77. Cable corridor haul road and access designs shall be provided by the Contractor and shall include information on the proposed location and installation of cross falls for separation of clean and dirty water cut off ditches (with rock and or check dams for attenuation) and mitigation such as french drains, collection sumps, attenuation ponds (designed to appropriate size and scale to settle suspended solids) and silt fencing. In addition, the location and storage of topsoil and subsoil management is an important factor to the design that must be clearly defined. The Contractor shall monitor the effectiveness of the installed mitigation measures and must adapt these to handle changes in flow rate and quality of runoff if required. At no stage shall cut off ditches conveying dirty water be directly connected to existing drains / ditches / watercourses. The quality of stone used for the haul road and accesses can have a direct effect on pollution risk and so the stone used should be clean with limited fines to minimise the potential for contaminated run-off.

78. The Contractor will be responsible for maintaining and recording water quality through a combination of visual inspection, in-situ monitoring and sampling and analysis (where appropriate) and documented reporting. The Contractor is required to ensure that any surface water arising from their works is suitable for discharge and fully compliant with any Suffolk County Council (SCC), Environment Agency (EA) or relevant Internal Drainage Board (IDB) requirements.

79. Early engagement with the relevant local planning authority, EA, SCC and relevant IDB will be required.

6.3. Flood Risk Activities and Watercourse Crossings

80. All activities must be conducted in compliance with the EA/SCC guidance and Regulatory Position Statements and Contractors must check whether any work such as bridge works, culverting etc is likely to be a regulated flood risk activity and if so, obtain the necessary environmental permit and/or Land Drainage Consent.

81. Approval of applications for environmental permits can take several months and the Contractor shall take this into consideration in relation to the programme to reduce the potential for delays to work.

82. The Converter Station Contractor shall prepare a Flood Plan (to be appended to the Code of Construction Practice (CoCP)) which sets out the procedures to be followed in the unlikely event of a flood emergency at the converter station and temporary laydown sites. The aim of the plan is to provide contractors appointed for the onshore construction works clear indicators confirming when the

construction works area should be evacuated in the unlikely event of a flood emergency. The plan shall also provide the key information for planning and responding to an evacuation.

83. A watercourse crossing schedule will be provided by the Contractor, containing the location and outline details of each crossing. The Contractor shall be responsible for providing a detailed methodology for each crossing, including the provision of RAMS. The RAMS will identify the exact method to be used at each bespoke crossing and include the pollution control measures that will be in place to prevent any impact on the watercourse. The flood defence consents or permits required from the EA (for main river crossings) or the IDB (for land drainage and bylaw applications) or SCC (for those that do not fall under the EA or IDB), shall be obtained by the Contractor.
84. To obtain permits, Contractor RAMS will be required and the provision of this information should be timely as requested by the Employer so as not to delay programme. The Contractor should be prepared to provide flood modelling for their watercourse crossing design as this is a likely requirement by the regulators. The crossing installations shall be planned in accordance with the overall programme and take into account the requirements of any preconstruction surveys and mitigation (ecological/aquatic). The Contractor shall ensure that the appropriate permissions/authorisations are in place before commencing works.
85. The Contractor must take all measures possible to prevent pollution of any watercourse being crossed. The banks of watercourses shall be protected from unnecessary disruption or damage and contamination prevented by the installation of appropriate mitigation measures.

6.4. Water Abstraction

86. Abstraction of water may be required by the Contractor for potable supply or for use during site activities, such as concrete batching, washing and dust suppression. The Contractor will be responsible for obtaining from the EA, in advance of use, any permits for the use of abstracted water and for monitoring and recording associated abstraction rates or other licence requirements to demonstrate compliance. In the event that abstracted water is required for potable supply purposes, the contractor shall do so in consultation with the Environmental Protection Team of the relevant District Council to facilitate regulation under and compliance with Private Water Supplies Regulations. Abstraction permits may take in excess of a month to obtain and this should be factored into the Contractor's programme.

6.5. Discharges

87. The Contractor will be responsible for obtaining from the EA, in advance of any discharge, relevant permits associated with the use of septic tanks or other trade effluent / washout water treatment facilities and for monitoring and recording specified volumetric, quality or reference conditions, to demonstrate compliance. Dependent on volume rates per day and treatment, permits may take up to 4 months to obtain and should be factored into the Contractor's programme. If permanent connection to the foul sewer is not available during the construction phase, the foul water and sewage effluents produced by the construction workforce shall be contained / treated by temporary foul drainage facilities.
88. Part 4, Section 13 Discharge of Waters gives EATL the rights to lay down, take up and alter pipes on land within the order limits, subject to obtaining consent and approval for the discharge from the person to whom it belongs. However, construction of any works in, under, over or within 8m of, any watercourse forming part of a main river or any damage or interference with the bed or banks of such a watercourse will require the prior written consent of the Environment Agency.
89. The Contractor will be responsible for obtaining from the relevant utility/ authority, in advance of any discharge, required permits associated with the use of any drains for the disposal of any surface or foul water.
90. Waste sludge from septic tanks and effluents from cesspits and sewage holding tanks shall be removed by a suitably licensed and registered waste carrier in accordance with Duty of Care requirements, with details and records maintained in accordance with the Site Waste Management Plan and available for inspection by the Employer if requested.

6.6. Private Water Supply and Surface Water Monitoring

91. It is the Contractor's responsibility to conduct a full catchment risk assessment for private water supplies (PWS) at risk, factor in contingencies and work in a way to protect the integrity of a resident's or landowner's PWS during their works (including supplies used solely for livestock or crop watering). The Contractor shall identify and plan their work to protect PWS and also have contingency arrangements in place to provide a supply from a secondary source, if required. The Contractor shall mitigate any identified impacts upon PWS in accordance with Section 14 of the CoCP. The Contractor shall have adequate means to compensate should their works

result in a PWS being compromised. The Contractor shall arrange through the Employer to take samples and analyse PWS prior to and throughout the duration of the works. Personnel involved in the collection of samples, analysis and reporting of results shall be suitably qualified. The Contractor will ensure effective communication with the Employer in regard to any areas of concern. The LPA will also be informed of any PWS sampling programme and the sampling results will be provided to the LPA with the permission of the householder.

92. The Contractor shall make provisions to conduct water sampling at various locations identified by the Contractor and based on risk, sensitive receptors, or by direction from Consent documentation, including costs for undertaking analysis and providing a detailed report as described. The provision should include for baseline water quality monitoring and for sampling during the project as well as regular visual inspections throughout construction phase. In-situ monitoring for dissolved oxygen, electrical conductivity, pH, turbidity and temperature shall be undertaken. The parameters required for extractive sampling shall be agreed with the Employer prior to sampling and shall include dissolved oxygen, electrical conductivity, pH, turbidity, suspended solids, colour, total organic carbon, iron, aluminium, manganese, nitrate, phosphate and total petroleum hydrocarbons.

6.7. Oils, Fuels and Chemical Management

93. It is the responsibility of each Contractor to adhere to consent requirements and have in place adequate controls for the delivery, storage and use of fuels, oils and chemicals on site and other materials as required (as set out in the CoCP). This includes checks that chemicals to be used comply with relevant regulations. The Employer will check these controls are in place during their inspections on site.
94. Contractors must retain and maintain a COSHH Register including MSDSs for all hazardous substances on site.
95. Where practical, the Contractor must use products that biodegrade quickly to ensure impacts to the environment are minimized, this is a minimum standard. If a non-environmentally friendly product is proposed for use, the Contractor must provide justification for that product being used.
96. Within their CEMP, each Contractor must consider the delivery, storage and handling of hazardous materials and in particular oils and fuels, taking into consideration applicable legal requirements and best practice guidelines (e.g. Guidance note for the Control of Pollution (Oil Storage) (England) Regulations 2001 (DEFRA)), including (but not limited) to:
- Selection of chemicals that have the lowest impact to the environment where practicable and volumes of hazardous substances stored to be limited to be fit for purpose and minimise risk;
 - All contractors shall detail with their CEMP specific controls necessary for the delivery, storage and handling of hazardous materials relevant to their works, and in particular oils and fuels, taking into account the requirements of the Control of Pollution (Oil Storage) (England) Regulations;
 - Oils and chemicals must be clearly labelled. A register of hazardous substances shall be kept on site, the register will include the product/substance MSDSs;
 - Storage, and use handling of chemicals in line with manufacturer's instructions / recommendations and MSDS guidance, the COSHH Regulations 2002 and regulator guidance on the storage of chemicals.
 - Activities involving the handling of large quantities of hazardous materials, such as deliveries and refuelling will be undertaken by designated and trained personnel.
 - The storage of incompatible hazardous materials shall be appropriately segregated and stored a minimum of 12m from any watercourse or drain. If hazardous materials are stored in a confined space, the space must be properly ventilated.
 - Secondary containment capacity for substances dangerous to the environment¹ must be 110% of the largest container or 25% of the total volume of accumulated containers (whichever is greatest). Spill kits of sufficient capacity to deal with volumes stored to be fully stocked and readily available;
 - Recorded regular preventative maintenance shall be in place for all plant and equipment (e.g. scheduled maintenance).
97. Activities involving the handling of large quantities of hazardous materials, such as deliveries and refuelling, must have a detailed RAMS in place and be undertaken by designated and trained personnel. Personnel engaged within fuel transfer shall be suitably competent with suitable controls in place to limit the risk of fuel spillage.

¹ In accordance with COSHH labelling

6.8. Waste Management

98. Waste will be managed in accordance with the waste hierarchy by avoiding waste generation and promoting waste minimisation in the first instance. Where waste is produced, reuse, recycle or recovery should be considered where practical and economically feasible prior to considering disposal.

6.8.1. Site Waste Management Plan

99. Each Contractor is responsible for the collection, storage and disposal of their waste, produced as part of their Works, unless otherwise agreed. Contractors must prepare a SWMP, in accordance with the SWMP provided by the Employer to discharge Requirement 22 (g) of the DCO (Appendix 6 of the CoCP). The SWMP shall comply with relevant legislation and identify and record the type and volume of anticipated and actual waste produced on site, segregation and storage arrangements and transport and end point (re-use / recycling / recovery / disposal) arrangements. The Contractor SWMP will identify means in the first instance for minimising waste production, with the waste hierarchy implemented as part of the SWMP throughout the full phase of works. The SWMP shall be submitted to the Employer for review prior to their works commencing. Site waste storage facilities shall be monitored on a weekly basis. Regular monitoring of waste storage facilities and compliance with controls identified within the SWMP will be undertaken by the Contractor's environmental management representative and EnvCoW throughout the construction phase.

6.8.2. Duty of Care

100. All movements of waste off-site waste shall be accompanied by relevant waste transfer documentation including WTNs for non-hazardous waste and waste Consignment Notes for hazardous wastes. Wastes shall only be uplifted and transported by registered waste carriers and Contractors shall ensure that their waste carriers are suitably licensed prior to any waste movements from site. Copies of waste carrier's licences shall be retained by the Contractor's environmental management representative and EnvCoW and made available to the Employer on request.
101. A valid waste management licence, permit or exemption must be in place for the facility that will receive the waste. Contractors shall ensure that waste receiving facilities are suitably licensed. Copies of waste licences / permits / exemptions shall be retained by the Contractor and made available to the Employer on request. Where exemptions are to be used for onsite works, these are to be correctly registered with the Environment Agency prior to use/treatment of waste and relevant evidence is to be retained by the Contractor to illustrate adherence with the exemption conditions.
102. The Contractor must ensure that duty of care is applied and that the appropriate documentation is held, such as waste transfer notes, consignment notes, copies of the waste carrier's license, waste disposal site license, and updated waste record logs in accordance with the relevant waste legislation. Waste management records must be made available to the Employer upon request. The SWMP shall be maintained by the Contractor and waste data provided to the Employer on a monthly basis.
103. Within a port, waste management controls must be managed in a legally compliant manner as required by the Port Authority.

6.9. Noise and Vibration

104. There is the potential for noise and vibration to be generated during the construction process, especially from the operation of heavy plant and machinery. Impacts from such activities have the potential to disturb wildlife and community receptors.
105. Contractors must provide a Noise and Vibration Management Plan, in accordance with that provided by the Employer to discharge Requirement 24 of the DCO. Contractors are required to familiarise themselves with any mitigation requirements and to ensure they fully comply with these. It is expected that Contractors shall conduct and report baseline, construction and post construction noise monitoring at sensitive receptor locations. The monitoring shall be proposed in a plan to demonstrate a compliant approach and shall be conducted by trained personnel with appropriate calibrated equipment and full reports will be made available to the Employer.
106. Additional mitigation measures may be required at locations where noise levels are liable to cause a nuisance. As an example, acoustic barriers or low noise-emitting plant may be required and the Contractor should be prepared for such mitigation to be required and be able to respond in a timely manner.
107. Contractors must comply with the working hours for the onshore construction works as defined within DCO Requirement 25 and as set out in Section 5.5 of the CoCP.

6.10. Artificial Lighting

108. There is the potential for light emissions to impact and disturb wildlife and the local community. The Contractor shall provide a lighting emissions management plan and use types of lighting that will conform with the relevant Employer Construction Artificial Lighting Emissions Plan produced to discharge Requirement 23 of the DCO.

6.11. Emissions to Air

109. An Air Quality Monitoring Plan (AQMP) (Appendix 4 of the CoCP) has been produced by the Employer to discharge Requirement 22 (e). This sets out the general requirements to prevent any unnecessary air pollution and includes reference to dust control and management. Contractors must be aware of and work in compliance with this document and ensure the works are delivered to control and minimise potential air pollution including dust.
110. Contractors shall provide a project specific Dust Management Plan, detailing the techniques proposed for suppressing dust arising from site activities, in accordance with the Employer's AQMP. Fine spraying of water is a common way to suppress dust and Contractors proposing to use this technique should plan for repeat spraying regularly, especially during warm and sunny weather when water will evaporate quickly. Contractors must also ensure that the application of dust suppression water does not create excessive mud generation or a flow of dirty water that could runoff into watercourses or drains.
111. Due to the location of the onshore works, the area is susceptible to local droughts and dry, bare ground, and strong breezes, all of which contribute towards an increase in airborne particles. Sources of available water for dust suppression may be difficult to acquire during these times. Contractors must consider and plan for these circumstances to demonstrate to the Employer that appropriate means to manage dust are in place and sources of water for dust suppression should be considered prior to construction.
112. Local residents are likely to be sensitive to dust related nuisance and Contractors must ensure dust monitoring is conducted throughout the works, especially at sensitive receptor sites. Evidence of dust monitoring is critical to the project and stakeholder management team to demonstrate that the project is compliant with mitigation commitments. Contractors may be requested to arrange the cleaning of resident's assets, at their own cost, if the appropriate dust mitigation measures have not been implemented and managed and are shown to be associated with site activities.

6.12. Concrete and Cementitious Materials

113. Waters from concrete works and liquors draining from cable trenches using cement bound sand (CBS) are highly alkaline and shall be prevented from discharging to natural waters or to ground. The wash out of any concrete mixer and associated chute, tools or equipment must be undertaken in a designated area away from drains and watercourses. All delivery drivers shall be made aware of the requirement on arrival at site.
114. Contractors proposing to use cementitious materials such as CBS, which have the potential to generate alkaline liquors, shall consider and detail how alkaline water will be treated and disposed of, particularly at likely collection points such as jointing bays and low points such as watercourse crossings. Alternatives to the use of CBS should be considered in the first instance.
115. Contractors must specify the mitigation proposals to prevent water or ground pollution and define to the Employer the method to adopted at each relevant location in their CEMP and or site-specific RAMS. The Employer reserves the right to request additional controls or a different methodology if there is a residual risk of contamination to ground or local water bodies. A relevant TBT shall be delivered to all personnel on site working with concrete and cementitious material and an attendance sheet signed and retained. The direct discharge of concrete washout water or cementitious liquors to ground or surface water is prohibited.

6.13. Soil Storage

116. Contractors shall provide a Soil Management Plan including a methodology and design plan for effective management of soils, particularly those arising from stripping activities, which shall consider the Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA). The specified details of the management plan will be in place and communicated to all site personnel. The methodology will follow construction best practice guidelines for separation (topsoil and subsoil), management and reinstatement of soils. The methodology will ensure the effective separation of top and subsoil to prevent cross contamination with each other and between field or landowner boundaries and include mitigation measures to minimise the potential for erosion and generation of dirty water run-off. It is essential that soil management is closely monitored and all soils are stored appropriately as poor management may lead to erosion, which may lead to pollution and siltation with an immediate detrimental effect on any receiving watercourse.

6.14. Use of Recycled Materials

117. Whilst the use of recycled aggregate is normal practice and can be a good environmental option, there are risks associated with its use if the processing of the material is not controlled and does not comply with the standards of Waste and Resources Action Programme (WRAP), Environmental Permit conditions and specific project requirements. It is the Contractors responsibility to ensure that any recycled product utilised on site is compliant with all regulatory and project requirements prior to submitting a proposal to the Employer for acceptance on the project. If recycled materials are proposed for use or incorporation in works to the public highway, technical approval will be required from the local highways authority.
118. If Contractors propose the use of recycled aggregate, early discussions should take place with the Employer's project management team (in consultation with the project quality, engineering, environmental and consent teams) to understand the provenance of the proposed aggregate and evaluate the implications the use may have. Information such as evidence that only inert materials have been used as input material, suppliers' acceptance criteria, and a copy of the testing plan (sampling and frequency) may be required. It would be expected that the Contractor had completed a due diligence audit of the supplier to ensure all appropriate mitigations, training, documentation is in order and supplied to the project for review prior to any stone being delivered to any site.
119. Due to the mixed land use within the Order Limits, it is likely that virgin aggregate will be required to be used where land is used to grow organic produce, near waterbodies/marshland and at watercourse crossing points. If recycled aggregate is proposed to be used, a map defining areas of proposed use shall be agreed with the Employer prior to use.

6.15. Energy and Fuel Consumption

120. Energy and fuel use minimisation and conservation is expected. Low energy and conservation devices must be incorporated into the design process and used wherever practicable on site.
121. Each Contractor must meter energy use and monitor consumption in areas for which they have responsibility. Records must be available for inspection by the Employer if requested and will be required to be reported to the Employer on a monthly basis.
122. As far as reasonably practical, the Contractor must minimise the use of fuel by vehicles and generators. Fuel usage records must be available for inspection by the Employer if requested and shall be reported to the Employer on a monthly basis.

6.16. Ecology

6.16.1. Species Information

123. The EA THREE Environmental Statement identifies ecological receptors that may be sensitive to project activities. Contractors will be expected to implement the mitigation described in the Employer's Ecological Management Plan, developed to discharge Requirement 21 of the DCO, particularly in relation to vegetation clearance, maintenance of ecological barriers and provision and communication of exclusion areas.
124. In addition, Contractors shall comply with relevant licence requirements for all species. The Contractors and their sub-contractors are expected to receive training and communication on project ecological constraints, mitigations and requirements (relevant ecological awareness TBT shall be delivered to all personnel working on site and an attendance sheet signed). Works should be stood down and the project ECoW called to attend if protocols have been compromised or unexpected wildlife or evidence of wildlife has been uncovered.
125. Protected and priority species highlighted in the the project Environmental Statement, the Employer Ecological Management Plan and East Anglia project experience to date have been summarised in Table 6-1, including typical mitigation required during the project construction phase.

Table 6-1 Protected and priority species and typical management / mitigation

Fauna	Typical Management / Mitigation
Badger	Setts to be directly impacted from works to be closed under licence. Setts outside of works likely to be indirectly impacted by works (disturbed) also require a licence for works to legally proceed. All excavations to be covered at the end of each working day or include a means of escape (such as a ramp), open pipe systems capped to prevent badgers gaining access, pre-works checks, direct lighting away from risk habitats/setts and ongoing monitoring by ECoW.
Otter	Licence requirements to be assessed by ECoW prior to any works commencing. All excavations to be covered at the end of each working day or include a means of escape, open pipe systems capped to prevent access, pre-works checks and ongoing monitoring by ECoW.
Water vole	Habitat displacement under licence, and destructive searches of burrows if required, biweekly strimming of vegetation and watercourse bank (or as required throughout winter), monitoring by ECoW.
Birds Marsh Harrier, Skylark, Oyster Catcher, Brent Goose, Cetti's Warbler, Avocet, Grey Plover, Reed Bunting, Merlin, Lapwing	Timing of works (designated nesting season March to September inclusive), pre-works nesting bird checks, exclusion zones for active nests of a minimum 5 m or as specified by the ECoW according to the species, noise barriers, ornithological monitoring surveys by ECoW (Schedule 1 species and wintering species). Specific works to be limited to outside winter season (Nov – Feb) to avoid disturbance of wintering bird species (Brent Geese).
Bats common, soprano and nathusius pipistrelle, noctule, serotine, barbastelle, myotis sp	Licence requirements to be assessed by ECoW prior to any works. Light spills to be reduced by directing the light to where it is needed and the design of the luminaire to minimise light spill by use of accessories such as hoods, cowls, louvres, etc. Flood lighting to be directed away from woods and hedgerows likely to be used as commuting routes. Hazel hurdles, or similar, to be installed and maintained where hedgerows, identified as being important for bats, are to be removed. Ongoing monitoring by ECoW for any potential roost sites and important hedgerows.
Reptiles Common lizard, grass snake, slow worm	Trapping and relocation prior to any works to be assessed by the ECoW following pre-commencement surveys. Habitat manipulation and the construction of additional hibernacula, , biweekly strimming (or as required throughout winter), pre-works checks and ongoing monitoring by ECoW.
Amphibians Great Crested Newts (GCN), Smooth Newt, Palmate Newt, Common Toad, Common Frog	Installation of exclusion fencing, trapping and relocation of GCN under licence, if required, to be undertaken prior to works. Maintenance of fencing by bi-weekly strimming (or as required throughout winter). Staged strimming of any vegetation undertaken following hand search by ECoW, all excavations to be covered or a means of escape provided, materials to be stored off the ground and thoroughly checked prior to use/being moved, pre-works checks and ongoing monitoring by ECoW.
Invertebrates	Vegetation clearance in any areas important for invertebrates to be undertaken with ECoW supervision.

6.16.2. Protected Species Licenses

126. All reasonable precautions will be adopted to protect protected species from disturbance, injury and death and to protect any structure or place that any such species uses for breeding, resting, shelter or protection. It is the duty of the project ECoW to monitor and record the implementation of the Species Protection Plan's (SPP) recommendations. Contractors will be expected to implement, where relevant the mitigation described in the Employer's European Protected Species Reports, developed to discharge Requirement 29 of the DCO.

127. All ecological licences will be applied for and held by the Contractor. All works carried out by the Contractor must be completed in accordance with all applicable licence conditions. Where required, the Contractor shall obtain protected species licences in good time, and these shall be made available to the Employer on request.

128. The day-to-day responsibility for the implementation of the SPP and monitoring compliance rests with the ECoWs of both the Employer and Contractor. The ECoW's role will involve direct monitoring of all activities on the site to the extent the ECoW considers this to be required and/or training of nominated personnel to carry these out in a manner likely to minimise the potential for impact on protected species.

6.16.3. Vegetation Clearance

129. Any requirement to remove scrub, hedgerows & trees within the nesting season or near a nesting bird can only be undertaken following an ECoW survey to confirm the absence of nesting birds. Other species may also find refuge amongst scrub, hedgerow and trees, such as bats, amphibians, reptiles and rodents. All ecological potential should be surveyed for prior to any vegetation clearance. If any species is found following the survey, further consultation and acquisition of licences to disturb or relocate any protected species may be required.

130. Should any occupied nests be identified, an appropriate buffer zone (determined on the basis of species concerned and the location of the nests, but not less than 5m) will be maintained until it can be ascertained that the chicks have fledged.

6.16.4. Tree Protection

131. All working activity close to trees must follow the appropriate guidelines and control measures detailed within the Employer's Ecological Management Plans, Landscape Management Plans and also the Fencing and Enclosures Plans. Root protection areas must be demarcated and any excavations close to a tree or under tree canopy should be assessed prior to construction in accordance with the National Joint Utilities Group Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees: <http://www.whauc.com/site/NJUG/NJUG%20Publication10%20Proximity%20to%20Trees.pdf>

132. Should the attendance of an arboriculturist be required, as work progresses, the Contractor shall arrange attendance of a suitably qualified arboriculturist. Site communication with, and arrangement for the attendance and safety of the specialist on site, is the Contractor's responsibility. All decisions made on site shall be recorded in advance of planned works and made available to the Employer project management team who will be required to inform the local planning authority.

133. Any lopping of trees/hedgerows shall be agreed in advance with the landowner and Employer, in accordance with Part 7 (3) of the DCO (Felling or lopping of trees and removal of hedgerows).

6.16.5. Invasive Plant Species

134. The project Ecological Management Plan provides information in relation the location and proposed management of invasive species. Preconstruction surveys have identified invasive species at the locations described in the Tabel 6-2.

Table 6-2 Invasive Plant Species

Invasive Plant Species
Canadian waterweed throughout the cable route corridor including within the Queen's Fleet at Bawdsey Marshes and pond near to Somersham River and Kirton Creek.
Himalayan balsam is located on the River Fynn near Tuddenham St. Martin
Japanese knotweed in close proximity to the corridor near Tuddenham St. Martin

135. The Contractor shall conduct a pre-construction walkover survey to confirm the location of invasive plant species unless suitable and current data are available from the Employer. The survey shall determine if any previously identified areas have spread and if any new areas of invasive species have developed. The survey shall be undertaken between April and September.

136. The Contractor shall provide a detailed method statement in accordance with the Ecological Management Plan for dealing with invasive species, which shall focus on preventing their spread. The method statement shall be agreed with the Employer and EA and include a plan showing the location of identified invasive plant species, which must be updated if further stands are found during construction activities.

137. Best practice measures shall be adhered to so as to avoid the spread of non-native invasive species. Guidance in relation to managing invasive plant species is available from the Non Native Species Secretariat:
<http://www.nonnativespecies.org/checkcleandry/biosecurity-for-everyone.cfm>

138. Soil storage shall be carefully managed by the Contractor in accordance with the agreed method statement to avoid the spreading of invasive species. TBTs focussing on invasive species shall be delivered to site staff and will include information on recognising invasive species. Briefing notes containing this information will also be available at the site offices.

139. If invasive species are found on site, the Contractor's and Employer ECoW shall be informed. Work will stop within 10m of any invasive plants and the ECoW and construction team/site manager consulted for further instructions. An area 10m from the nearest invasive plant will be fenced or cordoned off to prevent access.

6.16.6. Designated Sites and Important Habitats

140. Multiple statutory and non-statutory sites are within 2km of the of the DCO Limits and these are identified in the relevant Environmental Statement chapter and supporting documentation. Contractors must familiarise themselves with any designated sites and important habitats in the vicinity of their works and ensure that appropriate mitigation is factored into their works to protect designated and important sites.

141. Notable Special Protection Areas (SPA) and sites with multiple designations include:

- a. The Deben Estuary (SPA), Ramsar Site and Site of Special Scientific Interest (SSSI); and
- b. Bawdsey Cliff SSSI.

6.17. Archaeological Management

142. Employer Written Schemes of Investigation (WSI) for Archaeological Management have been prepared in order to discharge Requirement 20 of the DCO, following consultation with Historic England and SCC. The WSIs assess the core areas of archaeological interest and areas where mitigation measures are required, which are generally divided into three phases:

- Set Piece Excavation areas where there are extensive and complex archaeological remains;
- Strip Map Excavation areas where significant but less complex archaeological remains are anticipated; and
- Watching Brief areas suitable for archaeological monitoring during groundworks.

143. The works may include the stripping and temporary storage of both topsoils and subsoil for the excavation/investigation of any archaeology. The Contractor shall implement measures to control surface water and silt runoff, which shall be maintained for the duration of the works. Land drains shall be diverted where required and reinstated in a timely manner.

144. Archaeological excavations shall include the provision of mammal escape ramps if left open.

145. Where a Contractor is to be working in an area where an archaeological watching brief is required, the Contractor shall provide a project archaeologist with sufficient notice for them to attend, in advance of commencement of relevant works, and to ensure full compliance with the requirements of the WSI. The Contractor shall advise the project construction management team and environmental team of all communication with the project archaeologist, so the project remains fully aware of archaeological activities. It is the responsibility of the Contractor to organise and manage this watching brief and to comply with the relevant WSI. For those areas where a watching brief is required in the WSI, a project archaeologist shall be provided by the Contractor. In any instance of unexpected archaeological finds, a requirement for the attendance of the project archaeologist will be immediately initiated by the Contractor.

146. Should unexpected potential archaeology be uncovered, work must stop and the finding be reported immediately to the Employer for further investigation with the project archaeologist and project team.

6.18. Unexpected Contamination

147. Mitigation measures to be undertaken when unexpected contamination is encountered are addressed in Section 11 Contaminated Land of the CoCP for each stage.

6.19. Pollution Prevention and Emergency Incident Response

148. The Contractor shall provide a Pollution Prevention and Emergency Incident Response Plan (PP&EIRP), in accordance with the Employers PP&EIRP prepared to discharge Requirement 22 (h) of the DCO, to be maintained and updated as required throughout the duration of the project. The plan shall describe the approach and contingency measures to respond to pollution events and environmental emergencies, including the location of response materials, details of the appointed specialist emergency response contractor, procedures for use and replenishment, training, and handling and disposal of contaminated materials.
149. The Contractor shall identify and provide details of a third-party 24 hour pollution response specialist able to respond and manage environmental incidents and pollution events that the Contractor is unable to manage using on-site resources including those involving oils, fuels, silt, concrete / cement wash waters / liquors and COSHH related incidents. The Employer reserves the right to instruct the Contractor to call upon their third-party contractor at the expense of the Contractor if an incident is not being addressed appropriately.
150. The Contractor shall provide training to the workforce on pollution response and containment. This will include information on the location of the equipment, its use and the means by which contaminated materials are to be disposed of following use. Relevant TBTs shall be delivered to Contractors on site and an attendance sheet signed.

6.20. Site Security

151. Adequate security will be provided by the Principal Contractors, working on behalf of EATL, to protect the public and staff, prevent theft from or damage to the works and to prevent unauthorised entry to or exit from the site. Site gates shall be closed and locked when there is no site activity and appropriate security measures shall be implemented and maintained throughout the project work.

7. IMPLEMENTATION AND OPERATION

7.1. Resources, Competency and Awareness

152. The Employer expects that all personnel on the project are trained and competent to complete the roles they have been assigned to and contracted for. The CVs for those personnel that are listed on a Contractor organisation chart as providing an environmental role shall be submitted by the Contractor in good time for review by the Employer. The Employer reserves the right to reject proposed personnel for the role if they are not deemed competent to fulfil the role, in which case the Contractor will be requested to provide an alternative person to meet the needs of the role. Contractor environmental managers / advisors shall have an environmental qualification and experience commensurate with the nature and scope of work.
153. For substantive packages of work, the Contractor shall provide an environmental team including an Environmental Manager and appropriate number of Environmental Advisors and dedicated environmental site operatives to be on site full time during all phases of the agreed scope of works. The Employer may also request the Contractor to provide a site based ECoW, to report to the Employer ECoW. The ECoW shall be required for the duration of all phases of the works and will be responsible for conducting the pre-commencement surveys and overseeing the environmental mitigation, in line with requirements of the Employer Ecological Management Plan, in advance of works commencing. The ECoW shall be suitably qualified for the task (experienced with linear projects as a clerk of works supporting construction activity) and a CV will be submitted to the Employer to review and accept before works commence. The frequency of site attendance will be managed by the Contractor but led by the Employer ECoW and will be dependent on the particular work activities being undertaken and the perceived associated risks.
154. The Contractor's environmental representatives must have the authority to stop works from proceeding if in their opinion work activities are either not environmentally compliant or are not being delivered in accordance with the site-specific RAMS.
155. An environmental training plan shall be developed by the Contractor to include *inter alia*:
- General environmental induction/awareness training;
 - Environmental emergency preparedness and response specific training;
 - Soil stripping and side cast storage and management requirements;
 - Surface water management;
 - Reinstatement techniques;
 - Waste management;
 - Weekly TBT sessions to cover specific relevant environmental or ecological issues appropriate to the work being undertaken.

156. Evidence of environmental training must be demonstrated by providing an environmental training matrix for specialist roles, which must be made available to the Employer for review upon request. Copies of training certificates and qualifications may be requested.

7.1.1. Project / Site Inductions

157. All personnel working on site are required to have a site induction that includes an environmental component. The induction must be delivered by an appropriate person and the content should be adapted to the task to be undertaken by the person being inducted. Induction records will require to be retained and may be requested by the Employer. The Employer's Environmental Team may provide guidance for the environmental content of inductions.

158. At minimum, the environmental component of the induction shall cover the following items:

- Environmental roles and responsibilities / key contacts;
- Key environmental documents of relevance, such as the Contractor's and Employer's management plans and Environmental Policies, etc;
- Site specific environmental sensitivities and impact issues associated with the scope of work (such as waste management, water and wastewater management, pollution prevention, hazardous substances management (fuel, oil and chemicals), sensitive ecological receptors, environmental nuisance (artificial light, noise, litter, mud etc), archaeology and associated mitigation measures, highlighting relevant procedures that must be followed;
- Key environmental regulatory requirements including relevant Consent / Permit / Licence conditions and environmental legislation that must be complied with;
- Relevant Personal Protective Equipment (PPE) requirements; and
- Environmental incident (including spill contingency), complaint and emergency reporting and response.

159. More specific information will be provided to staff according to their role.

7.1.2. Environmental Noticeboard

160. At least one environmental notice board will be present at each Contractor construction site and project office. The notice board will be displayed in an appropriate and prominent location and will be used to display copies of relevant environmental management information, including but not limited to the following;

- Contractor's Environmental Policy;
- Key contact details, including Contractor's environmental management representative;
- IBERDROLA Renewables Offshore Environmental Policy;
- SPR Environmental Behaviours;
- Relevant environmental bulletins and alerts;
- Site location plan showing ecologically / archaeologically sensitive areas, key management areas and location of contingency materials / features;
- Emergency response contact details;
- Emergency response flowcharts; and
- Employer will release environmental bulletins and alerts to site on an as required basis.

7.2. Communication

A number of different communication mechanisms will be used to allow environmental aspects to be discussed and acted upon and for training out and raising awareness of project environmental issues. These include, but are not limited to, environmental inductions, TBTs, environmental notice boards, environmental workshops and environmental bulletins and alerts, which will be communicated out and attendance registers maintained.

7.2.1. Meetings

161. Employer and Contractor health, safety and environment (HSE) meetings are required to be held on a periodic basis and must comprise of representatives from the Employer and Contractor teams and key sub-contractors. Minutes of meetings will be recorded and standard agenda items will include status of outstanding items/actions, reports of environmental incidents or complaints and enforcement notices, TBTs issued / delivered, key findings of environmental inspections and audits and initiatives.

162. All Contractors working on site shall hold a daily briefing ensuring that the work to be undertaken on that day is discussed and any environment considerations discharged to those personnel carrying out the works.

7.2.2. Regulatory Authority Communication

163. The Employer will communicate directly with the relevant regulatory authorities on behalf of the project. Contractors must not communicate with any regulatory authorities on behalf of the Employer without prior approval. This includes but is not limited to EA, the Local Planning Authority, SCC, NE, and IDB.

7.2.3. Stakeholder Communication

164. Effective and consistent communication with the local community is essential for the successful delivery of our works. EATL will manage public relations with local residents and businesses that may be affected by the construction works in any way. A proactive public relations campaign will be maintained, keeping residents informed of the type and timing of works involved, paying particular attention to potential evening and night-time works (where permitted) and activities which may occur in close proximity to receptors.
165. A Project Community and Public Relations Procedure has been produced to discharge DCO Requirement 20 (i) and is included as Appendix 8 of the CoCP. It sets out communication processes to be applied during the construction phase of the East Anglia THREE onshore works as a whole and aims to ensure that the construction works are fully communicated to interested parties. A brief summary of the processes is provided below; however, please refer to Appendix 8 for full details.
166. All work shall be carefully planned to minimise disturbance to our neighbours. Contractors must ensure that any complaints are reported to the Employer and investigated promptly.
167. Contractor must have a procedure in place to report public complaints within the Contractor's CEMP.

7.2.4. Environmental Handovers

168. Regular communication between all parties is essential for the effective implementation of the environmental management controls. Onshore construction areas are delineated into pre-defined work zones/packages. For each section, or defined work zone, the environmental, archaeological and ecological constraints and risks contained in that zone will be collated and recorded. Information will be regularly updated to ensure it remains current and complete. The Contractor shall routinely provide relevant revisions to ensure the environmental constraints record can be updated.
169. On completion of the works in any zone, it is important that a clear and documented handover procedure is in place where the Contractor finishing a scope of works provides sufficient information on environmental issues to inform the next Contractor or Employer to commence their works in that same zone. The Contractor will provide a documented chain of evidence of decisions or actions taken at each work zone, to verify overall legal compliance at handover and to demonstrate environmental competence and accountability. It is intended that this information will be formally documented on the project Environmental Handover document, which will be incorporated into the established Completion Certificate and handover process.
170. A monthly environmental meeting will be led by the Employer and will be attended, as a minimum, by the environmental representatives of Contractors working on the project. The objective of this meeting will be to review all activities underway and planned and agree and update the master version of the environmental constraints record, providing evidence of overall environmental progress, any identified issues or constraints and demonstrate a co-ordinated approach to overall project environmental management.

7.3. Incident Management

171. The Employer requirements for incident management are set out in the Health, Safety and Environmental Contractor Minimum Requirements Procedure (OSHS-OOP-SMS037) which specifies that: *"all accidents/incidents (safety and environmental) must be reported verbally to the Employer representative immediately within 30 minutes and followed up with a brief written statement report/accident form within 24 hours. A full report must be received no later than 7 days from the incident"*
172. Emergency and incident response and pollution contingency process shall also be managed in accordance with the EA Hub Emergency Response Procedure (ERP) (EAH-GEN-HSE-PLN-IBR-000025) and in accordance with the Employer's Pollution Prevention and Emergency Incident Response Plan (Appendix 7 of the CoCP), developed to discharge Requirement 20 (h) of the DCO.
173. All Contractors are required as a minimum to submit and maintain a CEMP specific to their work activities, the objectives of which should include preventing pollution from occurring, minimising the extent of any pollution that might occur, and mitigating the effects of any pollution.

174. The Contractor's documentation will, as a minimum include:

- A response flow chart that details how to report and deal with a pollution incident, including the measures available to contain/clean up the spill / leak (e.g. spill kits, etc.); and
- A list of agencies or officials of administrations responsible for receiving and processing reports on incidents involving oil and/or harmful substances.

175. All Contractors must report to the Employer any hazards, near misses, incidents and accidents upon knowledge of the situation. All environmental incidents and near misses must be reported, investigated and recorded. Incidents include all near misses, pollution events, damage to habitat and protected species disturbance.

176. It is the responsibility of the person observing a pollution incident to report this immediately to site management and the Employer, providing as much information as possible including:

- Name and position;
- Type and size of spill/loss;
- Source and location of spill/loss;
- Mitigation deployed and whether on-going situation; and
- Risk of impact to local receptors.

177. All Contractors shall complete the Employers Environmental Onshore Incident Notification Form (Appendix 4) and issue to the Employer within 24 hours of an incident occurring.

178. A full incident investigation report must be produced and issued to the Employer within 7 working days of the incident occurring, this report can be submitted on the Contractor's own template or the Employer's. If the report does not contain sufficient information such as root causes and preventive measures, the Employer reserves the right to request further revisions. In the event of a serious incident, (major onshore incident), regulator intervention will be likely. The Employer will be the single point of contact for all regulator contact. Actions arising from the investigations must be agreed with the actioned parties, with target dates for completion. All actions must be tracked to completion.

179. Incidents will be categorised as either near miss, minor or major (see Table 7-1), these incident designations will be assessed further by the Employer Environmental Manager and/or Package Manager and confirmed or, alternatively, the incident severity may be escalated as it develops over time. If designated as a Major incident, then the Employer Environment Manager and the Project Manager will be engaged and will form an Emergency Response Team (ERT).

180. The Employer will record all incidents on an internal reporting tool, Cintellate (the Employer internal central management database which provides for the recording and tracking of incidents, actions from audits and public complaints).

181. Incident categories are described in Table 7-1.

Table 7-1 Incident Category Definition

Category	Description
Near miss	Any event or situation that, whilst not immediately causing harm, has the potential to adversely impact on the environment
Minor	<p>Pollution to controlled waters as a result of oil/chemical spills or silt that is not considered to be significant and is contained locally.</p> <p>Pollution or contamination of land as a result of oil/chemical spills and is not considered to be significant due to the nature & extent of contamination and sensitivity of receptors.</p> <p>Pollution of air such as by refrigerant (e.g. R410A) leak with low global warming potential.</p> <p>Management of waste with insufficient regard to 'Duty of Care' but is unlikely to give rise to notices from stakeholders.</p> <p>Bird/mammal fatality not covered under Major and any other matter deemed to be a minor incident by the Employer Environmental Management & Compliance Manager.</p>

Major	<p>An incident which gives rise to a prosecution, regulatory notice, caution, warning letter, or other form of enforcement action/notification from a stakeholder such as regulatory body or authority (including a utility where appropriate).</p> <p>Activity undertaken in breach of legal requirements, without appropriate permission, licence or consent, or in breach of consent conditions, including "Duty of Care".</p> <p>Significant pollution to controlled waters as a result of oil/chemical spills or significant quantities of silt.</p> <p>Significant pollution or contamination of land as a result of oil/chemical spills which are considered to be significant due to the nature & extent of contamination and sensitivity of receptors.</p> <p>Significant pollution of air such as refrigerant (e.g. SF6/R22) leak with high global warming potential).</p> <p>Injury or death to any animal which has legal protection. Any other matter deemed to be a major incident by the Employer Environmental Management & Compliance Manager.</p>
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182. The Contractor shall liaise with the Employer to ensure that the procedures for each company, sub-contractor and external emergency organisations interface effectively. They shall include project specific details of emergency response arrangements including:

- Contact details for project parties (Client, Contractor and sub-contractors);
- External emergency facility contact details;
- Emergency response initial actions flowchart; and
- Statutory emergency reporting requirements.

183. Contractors shall not contact regulators directly without prior agreement with the Employer in relation to environmental incidents.

184. Emergency drills, which will include spill response drills shall be undertaken by the Contractor at least once every six months. Information on the frequency and type of emergency drills shall be incorporated into the Contractor's Construction Environmental Management Plan or PP&EIRP.

7.4. Document Management

185. The Employer has an established Document Management System that is currently managed via the Aconex program. All documents produced by the Environmental Team will be internally reviewed before submission to third parties. All final documentation will be stored on Aconex. The Employer Environmental Team will review all applicable Contractor information via the package Master Document Register to include (but not limited to) plans, procedures, risk assessments and method statements to ensure EA THREE environmental requirements are included where applicable into scopes of works and associated controls. All Contractor environmental documentation will be reviewed by the Employer environment team, including (but not limited to) monthly reports required under contract.

7.4.1. Contractor Construction Environmental Management Plan

186. Contractors, regardless of the nature of their work, will be required to demonstrate that environmental management has been considered and addressed as part of their work activity. Contractors shall be responsible for identifying and managing their work activities that could cause an environmental impact and prevent or minimise any such impacts and include any associated costs for this in their overall tender submissions to the Employer. The Employer will support the implementation of work activities designed to prevent or minimise environmental impacts.

187. In accordance with contract, the Contractor shall prepare a project specific CEMP covering their role and scope of works. The document shall be demonstrated to form an integral part of the Contractor's own management system and take cognisance of environmental guidance documentation (such as research, publications and best practice), including set out in this PEMP and the CoCP. The Contractor's CEMP shall clearly indicate how they plan to manage their sub-contractors, including how they select their contractors, assess their performance and manage them on site. Contractor's and their sub-contractor's environmental management controls and plans will require to be aligned with this PEMP.

188. The Contractor's CEMP will include, where applicable, the following, as outlined in the Employer HSE Contractor Minimum Requirements Procedure (OSHS-OOP-SMS307) and in accordance with the EA THREE DCO requirement discharge documents:

- EA THREE referenced and associated documents (such as management plans / Permit/Licences), the HSE Contractor Minimum Requirements, etc.)
- Environmental organisation and responsibilities;
- Site description including environmental sensitivities and a location plan;
- Environmental aspects and environmental risk registers;
- Environmental legal compliance including measures to demonstrate compliance with relevant consents/permits/licenses and applicable legislation;
- Ecology and habitats - associated monitoring, restrictions, licensing for European protected species etc;
- Mitigation measures and residual effects;
- Method statements and risk assessments to include environmental issues;
- Environmental monitoring and surveying requirements such as protected habitats and species (e.g. Schedule 1 bird surveys, site inspections, waste, energy, water and fuel use);
- Waste management (including waste management plans and Duty of Care file);
- Noise and vibration management;
- Air pollution control (including dust and fumes);
- Artificial lighting management;
- Oil, chemical and fuel delivery and storage including COSHH requirements;
- Water management including surface water management and waste water management;
- Contingency Plans, which shall include but not limited to: archaeology, pollution incidents and seasonal ecology;
- Public complaints (environmental) reporting procedure;
- Environmental incident reporting procedure;
- Environmental incident emergency response procedures (such as spill response);
- Environmental induction and training (such as TBTs and environmental awareness training);
- Sub-contractor management (including selection, monitoring and assessment);
- Monitoring of project environmental aspects, including environmental inspections and audits; and
- Reporting including incident and monitoring findings and statistics, waste data, energy and fuel use (consumption) and progress reports.

189. The Contractor's CEMP shall provide the names and roles of all key Contractor personnel in a legible organisation chart, together with interfaces with the Employer and all sub-contractors. This plan must be updated at least annually or following any significant changes to project environmental risks/aspects, working methods, approach, or document or management change throughout the duration of the construction works.

190. Additional plans that Contractors shall submit include (but not be limited to – please also refer to Section 3.3):

- Site Waste Management Plan;
- Materials Management Plan;
- Surface Water and Drainage Management Plan; and
- Pollution Prevention and Emergency Incident Response Plan.

191. The Contractor shall be responsible for programming all work activities to take full consideration of environmental and seasonal constraints. Any proposed changes to programme must follow a rigorous process of review against environmental aspects and ecological mitigation requirements, prior to any final decision.

7.4.2. Review of Contractor Documents

192. The Employer will review the Contractor's Construction Environmental Management Plan and associated documentation, RAMS and other applicable environmental documentation, as appropriate. The Employer may make comments and request changes/improvements as required.

193. These documents are to be provided to the Employer at least 4 weeks prior to commencing work to allow for review and amendment. The Employer reserves the right to request further revisions of the Contractor's Construction Environmental Management Plan until it meets a compliant standard in line with expectations in all referenced documents including this PEMP.

7.5. Management of Change

194. The Employer shall ensure that any change to the main specifications/details of the project in the construction phase is carefully considered, analysed and is only to be accepted and implemented when proper internal review and approvals are gained in accordance with the Change of Management Procedure. Management of Change considers:

- Changes to budget allocation;
- Changes to programme;
- Changes to consenting requirements, grid connection conditions and land agreements and;
- Changes to any other aspects of the business case.

195. Any changes proposed to the engineering or designs of the project shall be logged via a Project Decision Register, any changes shall be identified and reviewed by all relevant disciplines within the project (including Environment).

196. As a minimum, EA THREE project management will update the Environment Team of any changes who will evaluate the potential environmental risk of the change. If a significant risk is identified, the Environmental Team will advise the Change Management Team of the risk for it to managed and mitigated as appropriate.

8. MONITORING AND EVALUATION

197. The Employer Environment Team will carry out pre and post tender evaluation audits to verify that the Contractor and sub-contractor EMS are being implemented in order to manage environmental risks associated with the scope of work. Audits shall also be undertaken on key contracts to ensure the contract environmental commitments have been put in place once the Contractor has mobilised. Opportunities for improvement and non-conformances shall be tracked.

198. To ensure compliance to this PEMP and associated consent documentation, the Employer and Contractor will develop a monitoring programme for the project and site activities, which will comprise both inspections and audits.

199. Observations from inspections and audits shall be collected, recorded in inspection or audit template reports and issued to Contractors for closure of actions. The close out of these items will be required within designated timeframes. Each Contractor working on the project must maintain adequate records of environmental information and audits to demonstrate compliance with both legal and Employer environmental requirements. The Employer will assess compliance with relevant environmental legislation and consent commitments as part of the Employer environmental monitoring programme.

8.1. Environmental Audits

200. EA Hub environmental audits (more detailed than the inspections) will focus on compliance with this PEMP and will be completed by the Employer on key packages. These audits will be agreed and arranged with the Contractor at least two weeks in advance. All actions raised from audits will be logged by the Employer on an internal database, Cintellate. The Contractor must address and close out actions raised by audits in a timely manner.

8.2. Environmental Inspections

8.2.1. Site Environmental Inspections

201. The Employer and Contractors will undertake site inspections on a regular basis. These site inspections will include an environmental component, which must, as a minimum and where relevant, cover, the implementation of all environmental consent, legal and regulatory commitments as well as key environmental aspects such as waste management, water management, management of hazardous materials, wastewater management; emergency response, incidents and complaints, nuisance, and other site sensitive specific issues (this list is not exhaustive).

202. The Contractor will be issued actions associated with any observations of concern/non-conformance and must manage their close out in a timely manner. Records of the inspections carried out must be retained onsite and any remedial actions required must be recorded.

203. The Contractor shall provide the Employer with their project audit and inspection programme and subsequent reports will be made available to the Employer on request. There may also be joint (Employer and Contractor) visits, inspections and audits.

8.2.2. Regulator Visits and Inspections

204. If any external (not undertaken by the Employer or their Agents) inspections occur, the Contractor must record these and inform the Employer immediately and site/project management offered the opportunity to attend and support the visit, to manage and answer questions. Any actions must be reported to the Employer and recorded and tracked to closure.

8.2.3. Non-Conformance Reporting

205. The Employer and Contractors will raise NCRs, investigate, report findings, implement required changes and close. NCRs may be raised for various reasons such as non-conformance with consent, legal, Employer or Contractor's (own) requirements, or for repeated observations of concern during inspections and audits.

9. REVIEW AND REPORTING

206. Review and reporting of key environmental performance metrics form an important feature of the IBERDROLA Offshore Environmental Management System and are important mechanisms to facilitate continual improvement. In addition to the metrics detailed below, Lesson Learned reviews will be recorded and communicated to promote awareness and improve performance.

9.1. Employer Reporting

207. The Employer Environmental Team will provide monthly environmental reports to senior management, on the following requirements:

- Performance against Objectives and Targets and Key Performance Indicators (to be communicated);
- Number and type of environmental near misses / incidents, including a brief description of the event, mitigation actions and measures to prevent re-occurrence;
- Planned environmental events / training for the previous month and for the following month;
- Summary of Contractor environmental reports;
- Positive performance;
- Results from audits / inspections;
- Other items upon request.

208. All records relating to the environmental data that contributes to the environmental monthly report will be retained within Aconex. In addition, reports will be submitted by the EnvCoW to regulators including EA and Natural England (NE) as required and will be made available on request to the local planning authorities, for example in the event of an incident on site.

9.2. Contractor Monthly Reporting

209. The data listed below will be requested from each Contractor on a monthly basis in the form of numerical data and open/closed status:

- Environmental near miss incidents;
- Environmental incidents;
- Notices from Regulatory Authorities;
- Confirmed environmental complaints;
- Waste data; and
- Fuel and energy use data.

210. The environmental statistics will be released monthly as part of the relevant Contractor's monthly report.

9.3. Environmental and Safety Observation Reports

211. Environmental and Safety Observation Reports (ESORs) provide a mechanism for the workforce to identify hazards and make suggestions to reduce HSE risks associated with the working environment. The Employer project management team and all Contractors are encouraged to utilise this system to improve the working environment and reduce hazards to the workforce. An ESOR Tracker should be maintained on site.

APPENDIX 1 – ENVIRONMENTAL POLICY

IBERDROLA Renewables Offshore EMS



ENVIRONMENTAL POLICY

The purpose of this Policy is to outline and communicate the environmental commitments endorsed by IBERDROLA Renewables Offshore (IBRO). Respect for the environment is one of IBERDROLA's core corporate values and a key pillar of sustainable development. The business activities of IBRO support the IBERDROLA Group commitment to reduce the intensity of greenhouse gas (GHG) emissions as detailed in our Group *Policy Against Climate Change* and upholds our support for the United Nations Sustainable Development Goals on clean energy and climate change. The Policy is applicable to IBERDROLA Renewables Offshore Business, incorporating among other companies, the Offshore activities of ScottishPower Renewables, AVANGRID Renewables and Iberdrola Energía Internacional. This Policy is also consistent with our IBERDROLA Group Environmental Policy. The IBRO Environmental Policy applies to all phases of our work activities, from Project Development through to Decommissioning and across the full range of our geographic operating locations. To deliver our Environmental Policy commitments and manage our environmental risks we have developed and will maintain the necessary organisational structures and systems to apply an effective and systematic approach to environmental management. Our dedicated Offshore Environment Management System (OEMS), which has been developed to align with the ISO 14001:2015 Standard for environmental management systems, provides the main mechanism by which we embed environmental management into our operations.

Environmental Policy Commitments

Environmental Protection

When undertaking activities with the potential to generate significant negative environmental impacts, IBRO commits to assessing the risks of our activities in accordance with recognised best practice protocols and to implementing any required mitigation measures to prevent pollution and protect the marine and terrestrial environments.

Regulation and Standards

IBRO will conduct our business activities in compliance with the environmental legislation and regulations applicable to the jurisdictions in which we operate and to adhere to standards and codes of practice adopted by IBRO.

Environmental Objectives

IBRO will develop environmental objectives related to our offshore activities that support our corporate environmental and sustainability agendas in relation to reducing our GHG emissions, waste management and sustainable consumption of resources.

Environmental Performance

IBRO undertakes to monitor, audit and review the main aspects associated with our environmental impacts and utilise these feedback mechanisms to continually improve our management system and enhance our environmental performance.

Supply Chain

IBRO will promote the greening of our supply chain by explicit consideration of the environmental credentials of our main suppliers, particularly in relation to the procurement of our turbines and associated jacket foundations, offshore substations, transmission cables and installation and support vessels. Minimum health, safety and environment standards that our suppliers and contractors must comply with will be maintained and implemented.

Stakeholder Engagement

IBRO will incorporate effective communication and consultation procedures into our management systems to ensure that we fully engage with our stakeholders to identify pragmatic solutions to environmental issues of concern.

Training, Awareness and Competence

IBRO will undertake training to ensure that our staff are aware of our significant environmental aspects and associated control measures and have the necessary skills and competence to maintain our EMS and deliver our policy commitments.

Research and Innovation

IBRO will work with stakeholders and partners to evaluate and promote initiatives and emerging technologies that have the potential to improve efficiency and reduce our environmental foot print, including marine noise and vibration and vessel emission impacts.

Jonathan Cole, Managing Director, IBERDROLA Renewables Offshore

November 2019

Document ID: IBRO-OEMS-PO01

Revision: 1

Date: 20/11/2019

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APPENDIX 2 – SPR ENVIRONMENTAL BEHAVIOURS



SCOTTISHPOWER RENEWABLES ENVIRONMENTAL BEHAVIOURS

ScottishPower Renewables (UK) Limited (hereafter referred to as ScottishPower Renewables) is committed to minimising the impact of our activities on the environment. In order to support our Environmental Policy we have developed a set of Environmental Behaviours to represent the ethos of the Policy.

The Environmental Behaviours represent a concise list of key environmental behaviours expected to be followed by employees, contractors, technical advisors and consultants at all times, with particular emphasis on those undertaking site activities and apply to our onshore renewable activities in UK and Ireland. They are intended to reinforce important messages contained in inductions, procedures and other materials.

Our Environmental Behaviours are stated below.

1. Environmental issues shall be a key consideration throughout project development, construction, operation and decommissioning.
2. Legislative, company and site environmental requirements shall be complied with at all times.
3. Controls and measures shall be implemented at our sites to prevent and minimise pollution of air, land and water.
4. All environmental incidents, including near misses, must be reported, investigated and solutions implemented, where practical.
5. Waste hierarchy shall be observed at all times:

PREVENT

REDUCE

RE-USE

RE-CYCLE

6. Waste shall be segregated, contained and disposed of appropriately.
7. Minimise energy, water and resource consumption.
8. Minimise travel footprint
9. All staff will be environmentally aware and share a good culture with internal and external parties.

These behaviours are endorsed by the Chief Executive Officer, ScottishPower Renewables and will be subject to regular review.



Lindsay McQuade,
Chief Executive Officer, SPR
July 2018



APPENDIX 3 – PROJECT ASPECTS AND IMPACTS TABLE

Aspect	Activity	Impacts
Emissions to Air	From use of vehicles, vessels for site supplies, employees and site visits and offshore incineration	Local air quality, global warming
	From use of mobile and static plant	Local air quality
	From uncontrolled fires due to accident or emergency	Local air quality, global warming
Water Use	Use of boreholes and surface waters for water abstraction	Resource use
	Use of mains water (site offices)	Resource use
	Use of mains water (head and regional offices)	Resource use
Discharges to Water	Discharge of septic tank effluent	Contamination of groundwaters, surface waters, water supplies; flora / fauna impacts. Human health impacts
	Discharge from oil / water separator	Contamination of surface waters, water supplies; flora / fauna impacts
	Discharge from settlement ponds and other surface water control measures	Contamination of surface waters, water supplies; flora / fauna impacts. Human health impacts
	Discharge from vehicle wash out facilities (water and filtration systems); concrete washout-water	Contamination of surface waters, water supply, groundwaters; flora / fauna impacts.
	Discharge of fire waters	Contamination of surface waters, groundwater, water supplies; flora / fauna impacts. Human health impacts
Waste Production and Disposal	Non-hazardous wastes: such as general waste (paper, cardboard, plastic, canteen type waste), sewage tank waste, scrap metal and wood.	Depletion of landfill capacity; global warming Contamination of water (surface and groundwaters) if incorrectly disposed, cross contamination due to lack of controls.
	Hazardous wastes; oils, oil filters, oil rags, coolants and anti-freeze, aerosols, greases/grease cartridges, paints and solvents.	Depletion of landfill capacity; leachate and methane generated from landfill; air pollution if incinerated; Incorrectly disposed- cross contamination due to lack of controls; contamination land/water/air if incorrectly deposited
	Storage of hazardous wastes; oils, oil filters, oil rags, coolants and anti-freeze, aerosols, greases/grease cartridges, paints and solvents.	Contamination of groundwaters, surface waters, water supplies; flora / fauna impacts. Human health impacts
	Uncontrolled discharge of sewage	Contamination of groundwaters, surface waters, water supplies; flora / fauna impacts. Human health impacts

Aspect	Activity	Impacts
Leaks, Spillages and Overflows Hazardous Substances / Chemicals	Leaks and spillages from vehicles, plant (mobile and static), oils, hydraulic fluids, diesel, petrol, antifreeze from radiators; cleaning (oil/greases)	Contamination of land, surface waters, groundwaters, water supply catchments
	Leakage from oil tanks (including fuel tanks, mobile units, storage tanks)	Contamination of land, surface waters, groundwaters, water supply catchments
	Leakage from oil / water separators	Contamination of land, surface waters, groundwaters, water supply catchments
	Leakage from septic tanks, cesspools	Contamination of land, surface waters, groundwaters, water supply catchments
	Leakage from settlement ponds	Contamination of land, surface waters, water supply catchments
	Storage and use of oils, fuels and hazardous chemicals	Resource use, local air emission impacts, spills to surface and groundwaters
	Use of fluorinated gases	Resource use, contribution to ozone depletion, global warming
	Use and storage of grit and de-icers	Contamination of land, surface waters, water supply catchments
Noise and Vibration	From plant (mobile and static), equipment, vehicles and deliveries	Local noise and vibration nuisance, disturbance to protected species and associated habitats.
Energy Use	Use of electricity for plant, equipment, control room power, offices, domestic appliances etc	Depletion of non-renewable resource. Release atmospheric emissions (CO ₂ , NO _x , SO _x) due to combustion in fossil fuel power plants. Emissions contribute to global warming, acid rain and poor air quality.
Biodiversity	Modifications to terrestrial morphology and hydrological flow regimes	Morphological (channel shape and sediment regime) and watercourse ecology changes Flood risk Reduction in dilution available for point source/diffuse pollution Reduction in attenuation Soil/sediment erosion
	Land modified and change of land use and / or habitat	Damage to / and loss of habitat Drainage patterns modified, soil erosion Nutrient release from degrading organic matter and increased nitrification – water pollution and habitat change Disturbance of protected species Change in balance between aquatic and riparian ecosystems and water quality Reduction in rainfall interception and evaporation
	Introduction of temporary elements into the landscape	Change to local and regional habitats leading to species disturbance and displacement

Aspect	Activity	Impacts
	Potential for the spread of invasive weeds	Spreading of invasive weeds onto neighbouring land allowing further growth leading to species replacement and damage to natural habitats.
Heritage	Potential for location of renewable power generation sites to have direct effect on heritage features from infrastructure disturbance associated with cable route and converter stations	Loss of feature e.g. archaeological site
Resource Use	Use of office consumables (e.g. paper and stationery, communications, printing equipment, cleaning products)	Resource use, generation of waste
	Use of construction materials such as concrete, steel, wood, stone	Resource use, generation of waste
	Use of recycled aggregate for roads/access tracks/compounds on construction sites	Avoidance of use of new resources. Potential for land, surface and groundwater contamination if not quality controlled
Nuisance	Alteration of landscape and areas of scenic beauty due to presence of wind farm infrastructure and increase in traffic	Setting of features affected by presence of renewable power generation infrastructure.
	Nuisance to humans during construction and operation of renewable power generating infrastructure	Light pollution, noise and vibration, water pollution, waste / litter, dust, odour, aesthetics.
Suppliers and Contractors Competence and Awareness	Contractors/Suppliers staff activities	Limited staff awareness of environmental management could lead to a breach in regulatory compliance, consent condition, environmental incidents or emergency situation with associated impacts.
Staff Competence and Awareness	EA Hub staff activities	Limited awareness of environmental management could lead to a breach in regulatory compliance, consent condition, environmental incidents or emergency situation with associated impacts.
Past Activities	Previous land use	Potential contamination to surrounding environment, unexploded ordnance, disposal sites - mobilisation of contaminants

APPENDIX 4 – ONSHORE ENVIRONMENTAL INCIDENT FORM

ONSHORE ENVIRONMENTAL INCIDENT RECORD FORM										
Site Name						Date Occurred				
Site Type*	Development (inc SI)			Construction		Operational			Decommissioning	
Category of Incident*	Major			Minor					Near Miss	
Location of Incident*	Landfall		Cable Route		Substation/ Converter station		O&M Base		Control Compound	
	Access Road		Refuelling area		Habitat		Watercourse		Other (pl. specify)	
Type of Incident*	Oil Spill	Silt Mgt	Waste Mgt	Chemical Spill		Emissions to air (incl F-Gas Leak)	Flora / Fauna/ Habitat	Other (pl. specify)		
Est. volume / quantity							n/a			
Notifications*	Regulators				Other	Land Owner	Local Authority	Utility e.g. water, energy	Emergency Services	Director / Mgr / Env Team
	EA	NE	IDB	Other						
Date										
Person notified										
Description of the incident; <u>what</u> happened? <u>where</u> did it happen? <u>when</u> did it happen? (date and time) Witness (es):										

Response / Corrective Actions				
Why did it happen? (cause of the incident)				
Measures to remedy and prevent a recurrence		Owner	Priority (H/M/L)	Due By
Responsibilities	Name	Position	Date	
Incident reported by				
Incident owner				
Submitted by **				
Incident close out sign Off				
Information entered into Environment Database by				
* Circle as applicable in all section ** All Forms must be submitted to the Project Environmental Team				