MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Outline Pollution Prevention Plan

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Contents

Glossary

Term	Meaning
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Accidental Pollution	Where an accident results in pollution.
Assets	Property or items owned by individuals or companies possessing financial value.
Consent Infringement	Where the limits (of potential pollution) set as conditions of consents, permits or licences are exceeded or where methods of operation are not in accordance with procedures or conditions set by the regulatory authority.
Environmental Incident	Any event, activity or condition that causes, could have caused, or has the potential to cause damage to people, damage to property or the environment.
Morecambe OWL	Morecambe Offshore Windfarm Limited is a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) and Flotation Energy Ltd.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between bp Alternative Energy investments Ltd. and Energie Baden-Württemberg AG (EnBW).
Pollution	The harmful impact on the local atmospheric, aquatic or land environment caused by the release of hazardous or nuisance-causing substances; excessive noise and vibration.
Non-Compliance	Any event, activity or condition that does not comply.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.

Acronyms

Acronym	Meaning
ACM	Asbestos Containing Materials
ACM	Asbestos Containing Material
CIRIA	Construction Industry Research and Information Association
CoCP	Code of Construction Practice
COSHH	Control of Substances Hazardous to Health
DCO	Development Consent Order
EA	Environment Agency
HDD	Horizontal Directional Drilling
HSE	Health and Safety Executive
IBC	Intermediate Bulk Containers
IDB	Internal Drainage Board
PPG	Pollution Prevention Guidelines
PPG	Pollution Prevention Guidance
SuDS	Sustainable Drainage Systems
SuDS	Sustainable Drainage System
UST	Underground Storage Takes

Units

Unit	Description
%	Percentage
kV	Kilovolt
L	Litre
m	Metre
µ/l	Micro litres

1 Outline Pollution Prevention Plan

1.1 Background

1.1.1 Introduction

1.1.1.1 This document forms the Outline Pollution Prevention Plan prepared for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to hereafter as 'the Transmission Assets').

1.2 Implementation

1.2.1.1 This Outline Pollution Prevention Plan forms an appendix to the Outline Code of Construction Practice (CoCP) (document reference J1). Following the granting of consent for the Transmission Assets, detailed Pollution Prevention Plans will be prepared as a part of the detailed Code of Construction Practice(s) on behalf of Morgan OWL and/or Morecambe OWL, prior to commencement of the relevant stage of works and will follow the principles established in this Outline Pollution Prevention Plan. The detailed Bentonite Breakout Plans will require approval by the relevant planning authority following consultation with relevant stakeholders. The Applicants and all appointed contractors will be responsible for the implementation of the detailed Pollution Prevention Plans.

1.2.1.2 The Applicants have committed to implementation of detailed Pollution Prevention Plans via the following commitment, CoT04 (see Volume 1, Annex 5.3: Commitments Register, document reference F1.5.3), and is secured by inclusion of Requirement 8 of the draft Development Consent Order (DCO) (document reference C1) Schedules 2A & 2B. Below sets out the requirement wording for Project A (Project B's requirement mirror those of Project A for this requirement and are, therefore, not repeated):

8.—(1) No stage of the Project A onshore works or Project A intertidal works may commence until for that stage a code of construction practice has been submitted to and approved by the relevant planning authority following consultation as appropriate with Lancashire County Council, Natural England, the Environment Agency and, in relation to the Project A intertidal works or, if applicable to the Project A offshore works, the MMO.

(2) Each code of construction practice must accord with the outline code of construction practice and include, as appropriate to the relevant stage…

> *(d) pollution prevention plan (in accordance with the outline pollution prevention plan);…*

(3) The code of construction practice approved in relation to the relevant stage of the Project A onshore works must be followed in relation to that stage of the Project A onshore works.

1.2.1.3 The Transmission Assets may adopt a staged approach to the approval of DCO requirements. This will enable requirements to be approved in part or in whole, prior to the commencement of the relevant stage of works in

accordance with whether staged approach is to be taken to the delivery of the each of the offshore wind farms.

1.2.1.4 For onshore and intertidal works (landward of Mean Low Water Springs), this approach will be governed by the inclusion of Requirement 3 within the draft DCO, which requires notification to be submitted to the relevant planning authority/authorities detailing whether Project A or Project B relevant works will be constructed in a single stage; or in two or more stages to be approved prior to the commencement of the authorised development.

1.3 Methodology

1.3.1 Relevant guidance

1.3.1.1 Construction works will be undertaken in accordance with good practice guidance which includes the Environment Agency (EA), Construction Industry Research and Information Association (CIRIA) and Health and Safety Executive guidance which are summarised below.

- PPG1 general guide to the prevention of pollution.
- PPG2 above ground storage tanks.
- PPG3 use and design of oil separators in surface water drainage systems.
- PPG4 Treatment and disposal of sewage where no foul sewer is available.
- PPG5 works and maintenance in or near water.
- PPG6 working at construction and demolition sites.
- PPG7 refuelling facilities.
- PPG8 safe storage and disposal of used oils.
- PPG13 vehicle washing and cleaning.
- PPG18 managing fire-water and major spillages.
- PPG20 dewatering underground ducts and chambers.
- PPG21 pollution incident response planning.
- PPG22 dealing with spills.
- PPG26 storage and handling of drums and intermediate bulk containers (IBCs).
- PPG27 installation, decommissioning and removal of underground storage tanks (USTs).
- The environment agency's approach to groundwater protection.
- C532 control of water pollution from construction sites.
- C648 control of water pollution from linear construction projects.

- C648 control of water pollution from linear construction projects site guide.
- C736 containment systems for the prevention of pollution.
- C741 environmental good practice on site.
- C753 the sustainable drainage system (SuDS) manual.
- Health and Safety Executive (HSE) guidance (HSE, 2015)).

1.4 Potential pollution sources, pathways and receptors

1.4.1.1 For the purposes of this appendix pollution is defined as the introduction of a contaminant into air, land or water, resulting in an impact to the environment into which the substance is released.

1.4.1.2 Contaminants associated with construction of the onshore works may be both chemical (e.g., released fuels, oils, lubricants, surfactants and other cleaning chemicals, flocculants etc.) as well as physical (e.g., dust and other airborne particulates, siltation/sedimentation of watercourses).

1.4.1.3 The principle objectives of the strategy are to:

- identify potential sources and risks of pollution from onshore and intertidal construction activities;
- take proactive steps to prevent pollution pathways occurring for the contaminant to move/migrate to receptor(s); and
- present control measures to ensure that if any pollution should occur the impact to the receptor (target) that could be affected by the contaminant(s) is minimised.

1.4.2 Pollution sources

1.4.2.1 There are a number of potential sources of pollution from the onshore construction elements that may cause harm to human health and/or pollution of the environment.

- Direct disturbance of the banks and bed of rivers during watercourse crossing construction.
- Pumping of standing water required for de-watering of excavations, or as required for drainage management purposes.
- Run-off from exposed ground, excavations, and material stockpiles (aggregate and excavated soil), and haul routes.
- Run-off from tracks, bridges, and culverts crossings at watercourse crossings.
- Cement and cement wash from concrete batching plants, storage areas and other areas where cement grout or concrete is being applied.
- Plant washing and vehicle wheel wash areas.
- Fuel and chemical storage/refuelling areas.

- Release of drilling fluids during Horizontal Directional Drilling (HDD) operations (other trenchless crossing techniques may be used). See outline bentonite breakout plan (document reference J1.13).
- Leaking/vandalised plant and equipment.
- Sewage and wastewater from construction compounds.
- In ground asbestos fibres/asbestos containing material (ACM) disturbance. See outline contaminated land and groundwater discovery strategy (document reference J1.14).

1.4.3 Pollution pathways

1.4.3.1 Movement of pollutants within the environment may be as a result of direct release to the atmosphere, ground or surface watercourse or via permeable ground, groundwater flow, surface water drainage systems or man-made conduits for utilities.

1.4.4 Pollution receptors

1.4.4.1 There are a number of potential receptors identified which includes but is not limited to:

- surface waters including the River Ribble;
- groundwater (Secondary A aquifer and Principal aquifer units);
- ground and utility assets;
- construction workers and adjacent site users;
- source protection zones;
- licenced groundwater abstractions and private water supplies; and
- ecological designations.

1.5 Pollution prevention and mitigation

1.5.1 General pollution prevention measures

1.5.1.1 The following general pollution prevention measures will be applied during construction of the onshore elements in accordance the guidance referred to above.

Hazardous substances including fuels and oils

1.5.1.2 Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of these pollutants entering local watercourses or drainage systems. Bunded areas will have impermeable bases to limit the potential for migration of pollutants into groundwater should any leakage/spillage occur. Bunds used to store fuel, oil etc. within single

fixed tanks, intermediate bulk containers (IBCs) or mobile bowsers will have a capacity of 110 % of the container's storage capacity.

1.5.1.3 The following measures will be implemented on site for the use and storage of potentially polluting materials.

- Minimising the use of substances which have the potential to pollute to what is necessary for their operations.
- Ensuring the servicing of plant and equipment is conducted on hardstanding remote from any watercourse/drainage system.
- All oil and diesel storage facilities, including mobile fuel bowsers, would be at least 30 m from any watercourse and at least 50 m from any borehole or well, where practicable.
- A spill procedure will be documented, and suitably sized and stocked spill kits kept in the vicinity of potentially hazardous materials storage and handling areas.
- Spill kits and drip trays would be provided for all plant/equipment maintenance and at locations where any liquids are stored and dispensed.
- Storage facilities would be provided for solid materials to prevent deterioration of the materials and pollutant release.
- Storage facilities would be kept secure to prevent acts of vandalism that could result in leaks or spills.
- All containers of any size would be correctly labelled indicating their contents and any hazard warning signs.
- Any refuelling of plant will be undertaken within designated areas where spillages can be easily contained.
- Ensuring refuelling operations will only be undertaken by fully trained operatives.

1.5.1.4 All fuel and chemical storage will comply with the Control of Pollution (Oil Storage) (England) Regulations 2001, where applicable. The measures that will be implemented on site for the prevention of spills will include, but are not limited to the following scenarios.

- Fuel tanks and mobile bowsers and IBCs would have a secondary containment, e.g. a bund or drip tray. All tanks and mobile bowsers would be located in a sealed impervious bund.
- Fill (or draw off pipes) would not extend beyond the bund wall (or must be sealed) and should have a suitable lockable cap with chain.
- Any tap or valve permanently attached to a tank or bowser through which fuel can discharge, would be fitted with a lock.
- All valves, pumps, and trigger guns would be secured when not in use.

1.5.1.5 Suitable precautions would be taken to prevent spillages from equipment containing small quantities of polluting substances (e.g., chainsaws and jerry cans) including:

- each container or piece of equipment would be stored in its own drip tray made of a material suitable for the substance being handled; and
- containers and equipment would be stored on a firm, level surface.

1.5.1.6 Where fuel is delivered through a pipe permanently attached to a tank or bowser the pipe would be fitted with a manually operated pump or a valve at the delivery end which closes automatically when not in use.

1.5.1.7 The following management controls would be implemented.

- The pump or valve would be fitted with a lock.
- The pipe would be fitted with a lockable valve at the end where it leaves the tank or bowser.
- The pipework would pass over and not through bund walls.
- Tanks and bunds would be protected from vehicle impact damage.
- Tanks would be labelled with contents and capacity information.

1.5.1.8 In accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 where oil drums are over 200 L the following would be implemented.

- Multiple drums and containers have suitable secondary containment with sufficient capacity to contain at least 25 % of the total volume of the containers or 110 % of the largest container, whichever is the greatest.
- Drum storage areas would be covered to prevent rainwater getting into bunds (except for petrol and flammable liquids up to 1,000 L capacity which would be stored in accordance with Health and Safety Executive (HSE) guidance (HSE, 2015)).

1.5.1.9 Additionally, drums would be labelled and positioned such that leaks cannot overshoot the bund or drip tray wall; and all containers should be stored securely when the site is unattended.

1.5.1.10 For deliveries and dispensing activities, it would be ensured that:

- site-specific procedures are in place for bulk deliveries;
- all suppliers will be briefed prior to entering the site;
- delivery points and vehicle routes are clearly marked with signage;
- emergency procedures are displayed, and a suitably sized spill kit is available at all delivery points, and staff are trained in these procedures and the use of spill kits;
- tank capacities and current contents levels are checked prior to accepting a delivery to ensure that they are not overfilled;
- all deliveries are supervised throughout the delivery operation;
- spill prevention equipment is used during dispensing activities; and
- all spillages occurring during dispensing and handling activities are cleared up and reported via the appropriate site manager/agent and are

dealt with in accordance with the relevant construction management plans for the site.

1.5.1.11 All flammable and hazardous substances would be kept in a secure bunded cupboard, cabinet or tank constructed of materials which are chemically resistant to its contents and suitably ventilated.

1.5.1.12 The use of vehicles and plant poses similar risks to those posed by storage of hazardous liquids. Fuel and oil may leak from vehicles and plant which may enter watercourses or drainage systems, as well as contaminating the ground. The following measures would be implemented to reduce this risk.

- Vehicles and plant provided for use on the site would be in good working order to ensure optimum fuel efficiency and are free from leaks. Plant with integral bunding and/or drip trays would be specified.
- Sufficient spill kits would be carried on all vehicles.
- Any hired vehicles and plant would be checked on delivery and not accepted if they are not in good working order for example, leaking, excessive fumes, excessive noise and/or smoke.
- Vehicles and plant would be regularly maintained to ensure that they are working at optimum efficiency and are promptly repaired when not in good working order.
- Vehicles and plant would not park near or over drains and would be washed in accordance with the requirements of the relevant management plans.
- Employee-owned vehicles would not be driven or parked in construction areas unless authorised to do so.
- Refuelling and lubricating of vehicles and plant would be carried out on hardstanding using drip trays.
- Vehicles and plant would not be overfilled with fuel.
- Plant containing oils would be inspected daily and maintained to both prevent and identify leaks.

1.5.1.13 Vehicle checks will be conducted to ensure fuel storage and engine condition is satisfactory and that no fuel or chemical release will occur during site operations.

Silts and dusts

1.5.1.14 The following measures will be implemented to minimise the risk of pollution through the disturbance of silts and sediments.

- Stockpiling of excavated materials during earthworks would be temporary and dampened down as necessary to prevent dust.
- Stockpiles would be within designated stockpile areas only, which would be located a minimum of 10 m from any open watercourse features, where practicable.

- Any topsoil bunds will be seeded or sealed as necessary to prevent dust and run-off and will be inspected for invasive species colonisation.
- Disturbance to areas close to watercourses will be reduced to the minimum necessary for the work.
- Excavated material will be placed in such a way as to avoid any disturbance of areas close to the banks of watercourses and to prevent spillage into water features.
- Use of sediment fences along watercourses when working in close proximity to prevent sediment being washed into watercourses.
- Use of silt curtains within watercourses where required.
- Covers will be used by lorries transporting materials to/ from site to prevent releases of dust/sediment to watercourses or drains where practicable.
- If applicable, storage of stockpiled materials should be on an impermeable surface to prevent leaching of contaminants and covered when not in use to prevent materials being dispersed by wind or rainfall run-off.

Construction workers

1.5.1.15 Construction workers will follow good site and hygiene practice.

1.5.2 High risk activities

1.5.2.1 Further pollution prevention measures in relation to high risk activities are detailed below. Note the management of drilling fluids from HDD will be addressed within the bentonite breakout plan (outline bentonite breakout plan included in the DCO application (document reference J1.13) and the disturbance of ground asbestos fibres/asbestos containing material (ACM) will be addressed through implementation of the remediation strategy or discovery strategy.

Excavation dewatering

1.5.2.2 Water management for the construction scheme shall follow good practice guidance in line with CIRIA documents (CIRIA, 2006a and 2006b).

1.5.2.3 Excavation dewatering works will be controlled to prevent pollution of watercourses and drainage systems.

1.5.2.4 Water use will be managed as sustainably as possible with water reuse a priority.

1.5.2.5 The discharge of any wastewater generated by dewatering to surface water must be authorised by the EA for licensed/permitted disposal.

1.5.2.6 Any discharge water should be free of oil/fuel contamination and be clean i.e., suspended solids <60 µg/l and comply with the requirements of an EA license, where applicable.

1.5.2.7 Silty water will be treated to allow suspended solids to settle out before disposal.

1.5.2.8 Should the pumped water contain silt (suspended solids), prior to discharge to surface water, measures shall be taken to remove silt such as:

- infiltration trenches filled with clean stone to remove silt;
- vegetation margins adjacent to watercourses;
- sustainable drainage systems (SuDS) construction; or
- silt traps / treatment systems such as siltbuster etc.

1.5.2.9 Should it be required, further treatment of very fine silts (e.g., flocculation) shall be carried out to minimise impacts to the soakaway discharge and prevent clogging.

1.5.2.10 The mitigation measures outlined above will also be applicable where wastewater from dewatering is discharged to ground. The location of discharge will be checked every 15 minutes. Where the ground is becoming saturated and water is no longer infiltrating, the discharge location will be moved to an alternate location, where practicable. Water shall be pumped at a rate that allows the water to be quickly absorbed into the ground.

1.5.2.11 All dewatering activities shall be overseen by trained personnel and carefully managed to prevent localised flooding or pollution of surface and groundwater from silt and other contaminants.

Concrete washout

1.5.2.12 Concrete washout water is a slurry containing toxic metals. It is also caustic and corrosive, having a pH near 12 (in comparison, drain cleaner has a pH of 13.5) and for this reason it is highly polluting. The safe pH ranges for aquatic life habitats are 6.5 - 9 for freshwater and 6.5 - 8.5 for saltwater.

1.5.2.13 Designated areas will be provided for washing out concrete delivery lorries and concrete pumps. These will consist of a small skip or suitably constructed containment pit lined with an impermeable membrane. Concrete washout water will be managed in line with the EA position statement (Environment Agency, 2011).

1.5.2.14 After concrete is poured on site, the chutes of ready mixed concrete trucks and hoppers of concrete pump trucks must be washed out to remove the remaining concrete before it hardens. Equipment such as wheelbarrows and hand tools may also need to be washed down.

1.5.2.15 When the wash water in a construction site concrete washout container has been removed or allowed to evaporate, the hardened concrete that remains can be crushed and reused as a construction material or delivered to a recycler with the appropriate duty of care documentation.

1.6 References

CIRIA (2001) Control of Water Pollution from Construction Sites (C532)

CIRIA (2006a) Control of Water Pollution from Linear Construction Projects (C648)

CIRIA (2006b) Control of Water Pollution from Linear Construction Projects: Site Guide (C649)

CIRIA (2014) Containment systems for the prevention of pollution (C736F)

CIRIA (2015a) Environmental Good Practice on Site (C741)

CIRIA (2015b) The Suitable Drainage System (SuDS) Manual (C753)

Environment Agency (2018) The Environment Agency's approach to groundwater protection, Version 1.2.

Environment Agency (2011) Regulation Position Statement 107 (RP 107) Managing concrete wash waters on construction sites: good practice and temporary discharge to ground or surface waters. https://webarchive.nationalarchives.gov.uk/ukgwa/20140328090931/http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx (Accessed: 01/02/2024)

Health and Safety Executive (2015) HSG51 - Storage of flammable liquids in containers.

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Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2013) Pollution Prevention Guidelines: PPG1 Understanding Your Environmental Responsibilities – Good Environmental Practices.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2011a) Pollution Prevention Guidelines: PPG22 Dealing with spills.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2011b) Pollution Prevention Guidelines: PPG2 Above ground oil storage tanks.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2011c) Pollution Prevention Guidelines: PPG26 Drums and intermediate bulk containers.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2010) Pollution Prevention Guidelines: PPG6 Working at construction and demolition sites.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2009) Pollution Prevention Guidelines: PPG21 Incident Response Planning.

Northern Ireland Environment Agency, Scottish Environment Protection Agency and Environment Agency (2007a) Pollution Prevention Guidelines: PPG7 The safe operation of refuelling facilities.

Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency (2007b) Pollution Prevention Guidelines: PPG13 Vehicle washing and cleaning.

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Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency (2006a) Pollution Prevention Guidelines: PPG3 Use and design of oil separators in surface water drainage systems.

Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency (2006b) Pollution Prevention Guidelines: PPG4 Treatment and disposal of sewage where no foul sewer is available.

Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency (2004) Pollution Prevention Guidelines: PPG8 Safe Storage and disposal of used oils.

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Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency Pollution Prevention Guidelines: PPG20 Dewatering of Underground Ducts and Chambers.

Environment and Heritage Service, Scottish Environment Protection Agency and Environment Agency Pollution Prevention Guidelines: PPG27 Installation, Decommissioning and Removal of Underground Storage Tanks.