



Awel y Môr Offshore Wind Farm

Outline Code of Construction Practice

Appendix 6, Outline Pollution Prevention and Emergency Incident Response Plan

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Abbreviations and acronyms

TERM	DEFINITION
AyM	Awel y Môr Offshore Wind Farm
CMS	Construction Method Statement
CoCP	Code of Construction Practice
CIRIA	Construction Industry Research and Information Association
DCC	Denbighshire County Council
DCO	Development Consent Order
ES	Environmental Statement
ECoW	Ecological Clerk of Works
HDD	Horizontal Directional Drilling
NRW	Natural Resources Wales
OWF	Offshore Wind Farm
PPG	Planning Policy Guidance
PPEIRP	Pollution Prevention and Emergency Incident Response Plan
SHESQ	Safety, Health, Environment, Sustainability and Quality
WTGs	Wind turbine generators

1 Introduction

1.1 Purpose of this Outline PPEIRP

- 1 This Outline Pollution Prevention and Emergency Incident Response Plan (PPEIRP) is provided as Appendix 6 to the Outline Code of Construction Practice (CoCP) (application ref: 8.13) Environmental Statement (ES).
- 2 This is an outline document that, by reference to the assessments reported in the ES, sets out the key elements that will be secured in the detailed PPEIRP which Awel y Môr Offshore Wind Farm Limited (The Applicant) will be required to submit to Denbighshire County Council (DCC) for approval under a requirement of the DCO.
- 3 This Outline PPEIRP sets out the pollution prevention measures, and emergency incident responses, which may be implemented by the Applicant and its contractors during construction and should be read in conjunction with the Outline CoCP and all of its supporting appendices.

1.2 Scope of this Outline PPEIRP

- 4 For the avoidance of doubt, this Outline PPEIRP relates to the onshore elements of the Awel y Môr offshore wind farm (AyM) only (i.e. landward of Mean High Water Spring). This document does not relate to offshore works seaward of Mean High Water Spring that are principally marine activities.

2 Pollution Prevention

2.1 Objective

- 5 In respect of pollution prevention, the objective of the PPEIRP is to ensure the prevention of pollution to land, air or water and compliance with current environmental legislation, and to provide a benchmark for good practice such that all possible preventative measures will be taken to avoid pollution of land or the water environment during onshore construction works.

2.2 Statutory and Policy Context

- 6 Works will be undertaken in accordance with good practice advice. This will include, but is not limited to:
- ▲ Control of Water Pollution from Construction Sites (C532), Construction Industry Research and Information Association (CIRIA 2001);
 - ▲ Environmental Good Practice on Site (C741), (CIRIA 2015a);
 - ▲ Control of Water Pollution from Linear Construction Projects (C648), (CIRA 2006a);
 - ▲ Control of Water Pollution from Linear Construction Projects: Site Guide (C649), (CIRA 2006b);
 - ▲ Environment Agency, Planning Policy Guidance Note 6 (PPG6ⁱ): Pollution Prevention Guidelines – Working at Construction and Demolition Sites (Environmental Agency et al. 2012);
 - ▲ NRW's Guidance for Pollution Protection – Works and maintenance in or near water, version 1.2, (NRW 2018); and
 - ▲ The Suitable Drainage System (SuDS) Manual (C753), (CIRIA 2015b).

ⁱ The Pollution Prevention Guidelines (PPGs) published by the Environment Agency/Natural Resources Wales provided guidance and regulatory requirements on a range of construction issues. The PPGs were withdrawn from use in England on 17 December 2015, (as the Environment Agency does not provide 'good practice guidance'), however they still apply in Wales

- 7 The CIRIA guidance provides environmental good practice for the control of water pollution arising from construction activities. It focuses on the potential sources of water pollution from within construction sites and the effective methods of preventing its occurrence.
- 8 The NRW guidance is part of a wider suite of guidance for pollution prevention (GPP) relating to environmental good practice.

3 Pollution Prevention and Mitigation

3.1 Definitions & Potential Pollution Sources

- 9 Pollution may be defined as the introduction of a contaminant into air, land or water, resulting in an impact (generally negative) to the ecosystem into which the substance is released.
- 10 Pollution may arise as a result of poor planning and implementation of management procedures associated with traffic, plant and materials handling, waste management, surface water and drainage management, and concrete management.
- 11 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 and sedimentation of watercourses).
- 12 There are a number of potential sources of pollution from the onshore construction works which may adversely impact upon both terrestrial and aquatic ecosystems:
- ▲ Direct disturbance of the banks and bed of rivers during watercourse crossing construction, repair and/or upgrade works;
 - ▲ 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 / overburden peat and soil), tracks and haul routes;
 - ▲ Run-off from tracks, bridges and culverts crossings at water course crossings;
 - ▲ Run-off from recently reinstated areas (road verges, borrow pits etc.);
 - ▲ 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);
 - ▲ Leaking/vandalised plant and equipment; and
 - ▲ Sewage and waste water from construction compound and permanent control building amenities.
- 13 In any areas where there is an increased risk of hazardous substance spillage (e.g. storage compounds), additional precautions will be undertaken. These would include berms and bunding in accordance with NRW Pollution Prevention Guidance, impermeable bases, suitable drainage systems and siting away from open drainage channels.
- 14 Good construction practice and appropriate mitigation and monitoring are therefore essential for prevention of potential pollution from any of the sources noted above.

3.2 General Pollution Prevention Measures

- 15 The following general pollution prevention measures will be applied during the course of the onshore construction works in accordance the guidelines referred to above. A number of these points are addressed in further detail in the remainder of this outline PPEIRP.
- 16 Construction workers will follow good site practice and hygiene practice.
- 17 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 hazardous substances entering drainage systems or local watercourses. Additionally, the bunded areas will have impermeable bases to limit the potential for migration of contaminants into groundwater following any leakage/spillage. Bunds used to store fuel, oil etc. will have a 110% capacity.
- 18 All fuel and chemical storage will comply with relevant storage regulations. Any refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. The following measures will be implemented on site for the storage of materials:

- ▲ All oil and diesel storage facilities would be at least 30m 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 areas.
 - ▲ Spill kits and drip trays would be provided for all equipment 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 their escape;
 - ▲ Storage facilities would be kept secure to prevent acts of vandalism that could result in leaks or spills; and
 - ▲ All containers of any size would be correctly labelled indicating their contents and any hazard warning signs.
- 19 In accordance with the Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016 the following measures will be implemented on site for the prevention of spills:
- ▲ Fuel tanks and mobile bowzers (and any other equipment that contains oil and other fuels) would have a secondary containment, for example, double skinned tanks. All tanks and mobile bowzers would be located in a sealed impervious bund;
 - ▲ Fill pipes would not extend beyond the bund wall and would have a lockable cap secured with a chain; and
 - ▲ 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 turned off and locked when not in use. All caps on fill pipes would be locked when not in use.
- 20 Suitable precautions would be taken to prevent spillages from equipment containing small quantities of hazardous substances (for example, 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.

- 21 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;
- 22 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; and
 - ▲ Tanks would be labelled with contents and capacity information.
- 23 Where oil drums are over 200 litres (in accordance with the Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016) it would be ensured that:
- ▲ 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 and drum pallets;
 - ▲ Drums would be labelled and positioned such that leaks cannot overshoot the bund or drip tray wall; and
 - ▲ All containers are stored securely when the site is unattended.
- 24 For deliveries and dispensing activities it would be ensured that:
- ▲ Site-specific procedures are in place for bulk deliveries;
 - ▲ Delivery points and vehicle routes are clearly marked;
 - ▲ 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;
 - ▲ Suitable facilities (for example, drip trays, drum trolleys, funnels) meet the sites specific dispensing needs and are maintained and used;
 - ▲ 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.
- 25 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.
- 26 The use of vehicles and plant poses similar risks to those posed by storage of liquids. Fuel and oil may leak from such equipment which may enter drains and/or watercourses, as well as contaminating the ground itself. 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 or construction areas unless authorised to do so;
 - ▲ Topping up of vehicles and plant would be carried out on hardstanding using drip trays, or, where this is not reasonably practicable, drip trays would be used to reduce the risk of spills;
 - ▲ Re-fuelling of plant will not be undertaken within 5m of watercourse, land drainage or standing water;
 - ▲ Vehicles and plant would not be overfilled with fuel; and
 - ▲ Plant containing oils would be inspected daily and maintained to both prevent and identify leaks.

- 27 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.
- 28 The following measures will be implemented to minimise the risk of pollution through release of silts and sediments:
- ▲ Stockpiling of excavated materials during earthworks would be temporary and would only be permitted in designated areas. Designated stockpile areas would be located a minimum of 10 m from any open watercourse features where practicable.
 - ▲ 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.
 - ▲ Covers will be used by lorries transporting materials to/ from site to prevent releases of dust/ sediment to watercourses or drains.
 - ▲ 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 runoff.
- 29 The potential for release of drilling fluids as a result of frac-out will be reduced by:
- ▲ Undertaking appropriate ground investigation/desk study to inform drilling parameters such as drilling pressures
 - ▲ Monitoring of drilling fluid properties (i.e. mud weight, viscosity, gel strength, volume and pressure) during drilling to prevent frac-outs.
 - ▲ Stopping drilling if unexpected variations or trends are observed and investigating the cause
 - ▲ Having frac-out contingency plans and response equipment such as sand bags, vac--trucks and the like in place.
 - ▲ Regular inspections should also be conducted along the drill path during pilot hole drilling.

4 Pollution Prevention - Monitoring and Controls

4.1 Monitoring

- 30 On-site meetings/inspections will be carried out as necessary to confirm the appropriate use of mitigation measures identified within this outline PPEIRP. These meetings / inspections will highlight any further issues / measures which may be relevant either prior to commencement or during the works.
- 31 To ensure all mitigation measures put in place are maintained and continue to be effective, monitoring will be carried out. To ensure compliance of the works with this outline PPEIRP.
- 32 Regular checks of plant and equipment will be undertaken by the Principal Contractor to identify any oil or fuel leaks and to confirm the condition of the plant. Records will be kept of all inspections / findings for review. Regular checks for visual evidence of contamination/sediment will also be made alongside watercourses, nearby working areas and in areas of surface water discharge.
- 33 All plant and machinery will be maintained in a good condition and any maintenance required is to be undertaken in controlled areas.

4.2 Records

- 34 Records will be kept for all initial, final and routine monitoring inspections of all mechanical plant and working construction areas, as well as ecological and environmental issues. These records will be stored in an agreed location on site and be available for internal and external monitoring as required.
- 35 Record sheets will detail the date, location of inspection, frequency, findings, appropriate person/s notified and identified actions as necessary. Records of any spills detailing the location, date/time, volume, material spilt, clean-up operation, investigation/report/lessons learnt will also be kept.

4.3 Training

- 36 All employees, contractors, subcontractors, suppliers and visitors to the site will be notified via a site induction of the requirements on site for pollution prevention.
- 37 All construction workers will be briefed on the importance of water quality, the location of surface water features and the location and use of accidental spill kits and drip trays (or hydrocarbon absorbing alternatives) for static plant or parked up plant as part of the site induction.
- 38 Construction workers will be trained in the implementation of the emergency incident response plan which appears at section 5 of this PPEIRP.
- 39 Through tool-box talks, construction workers will be educated on those aspects of environmental management as appropriate to the task assigned to them.
- 40 The principal contractor will be responsible for overseeing and enforcing pollution prevention procedures such that potential adverse impacts to human health or the environment from any activities involving handling of potential pollutants are avoided or mitigated.

5 Emergency Incident Response

- 41 All incidents associated with the construction of the onshore elements of AyM, including environmental incidents and non-conformance with the CoCP, would be reported and investigated using the procedures that will be detailed within the relevant final management plans (NVMP, CTMP etc).
- 42 The following procedure would be followed in the event of an incident and would be detailed further in the relevant management plan:
- ▲ Works would stop within the vicinity of the incident;
 - ▲ The Safety, Health, Environment, Sustainability and Quality (SHESQ) Manager would be contacted;
 - ▲ The scale of the incident would be assessed;
 - if the incident was controllable by staff on Site, remedial action would be taken immediately in accordance with any relevant management plan;
 - if the incident could not be controlled by the staff on Site, emergency assistance would be sought;
 - ▲ The appropriate enforcing authority would be contacted and informed, including:
 - NRW for incidents relating to or affecting rivers, groundwater and major emissions to atmosphere;
 - the local sewerage undertaker for incidents affecting sewers;
 - DCC Environmental Health Department for incidents that could affect the public;
 - the Food Standards Agency for incidents that have the potential to affect food through deposition on crops or land used for grazing livestock;
 - ▲ The Applicant would instigate an investigation into the occurrence of the incident;
 - ▲ The findings would be sent to the appropriate enforcing authority where necessary; and

- ▲ An action plan would be prepared to determine why the incident occurred and whether any modifications to working practices would be required to prevent a recurrence. If necessary, the CoCP and Health and Safety Plan would be updated (and any other plans as appropriate) and all workers would be notified.

5.1 Clean-up and Restoration after a potential incident

- 43 There is no specific plan drawn up for the eventual clean-up and restoration of the site following a major incident. The majority of any restoration of the site is likely to involve the removal of damaged structures and rebuilding of man-made structures on the site that have been affected. Details of this would be very dependent on the specific details of any major incident.
- 44 Wildlife that is known to be present on the construction site shall have measures to ensure that the habitat was preserved and will remain viable within the construction site. The ECoW will advise regarding restoration and the potential impacts to wildlife.
- 45 In the event of a spillage in the area, containment measures will be employed to prevent harm to the habitat and wildlife. If an event is sufficient to cause severe impact to the habitat, measures would be put in place to restore the habitat.
- 46 It is possible that a major incident could compromise the integrity of fuel containment and result in a significant spillage on-site. Diesel is considered dangerous to the environment (toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment) and so the major concern is that any spillage is contained effectively.
- 47 Locally, surface clean-up of the diesel spillage would be undertaken by using spillage control materials on the areas of the site affected. A small amount may infiltrate the permeable soil surface, but in the medium term, diesel is biodegradable, and because there are no aquifers present below the site, small amounts of local soil contamination are of minor concern. Significant amounts of diesel may, however, enter the site drainage system and this must be considered in the clean-up process. Drainage plans of the whole area shall be made and stored on site.

48 Temporary arrangements will be made for storing any contaminated material on site. An appropriate designated position where it may be stored will be specified. However, for substantial quantities of any substance which is classified as dangerous to the environment, (diesel, water treatment chemicals and waste oil), waste material relating to these would not be stored on-site for long periods of time.



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