



# Awel y Môr Offshore Wind Farm

## Outline Code of Construction Practice

### Appendix 3, Outline Air Quality Management Plan

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# Abbreviations and acronyms

TERM	DEFINITION
AyM	Awel y Môr offshore wind farm
AQMP	Air Quality Management Plan
CMS	Construction Method Statement
CoCP	Code of Construction Practice
DCC	Denbighshire County Council
DCO	Development Consent Order
ES	Environmental Statement
IAQM	Institute of Air Quality Management
NRW	Natural Resources Wales
OWF	Offshore Wind Farm
PM <sub>10</sub>	Particulate Matter where particles are less than 10 micrometres in diameter
WTGs	Wind turbine generators

# 1 Introduction

## 1.1 Purpose of this Outline AQMP

- 1 This Outline Air Quality Management Plan (AQMP) is provided as Appendix 3 to the Outline Code of Construction Practice (CoCP) (application ref: 8.13)) as part of the 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 AQMP which Awel y Môr Offshore Wind Farm Limited (The Applicant) will be required to submit to Denbighshire County Council (DCC) for approval as a requirement of the DCO.
- 3 This Outline AQMP sets out the dust and air quality management techniques which may be implemented by the Applicant and its contractors during the construction of the onshore works and should be read in conjunction with the Outline CoCP and all of its supporting appendices.

## 1.2 Scope of this Outline AQMP

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

## 2 Control Measures and Mitigation

### 2.1 Construction Phase Mitigation

#### Overview

- 5 Site-specific mitigation measures are divided into general measures applicable to all sites, and measures specific to demolition, earthworks, construction and the movement of dust and dirt from a construction/demolition site onto the public road network (referred to as trackout). Depending on the level of risk assigned to each site, different mitigation is assigned. The method of assigning mitigation measures as detailed in the Institute of Air Quality Management (IAQM) guidance (IAQM 2014) has been used.
- 6 For those mitigation measures that are general, the highest risk has been applied. In this case, the 'medium risk' site mitigation measures have been applied. There are two categories of mitigation measure – 'highly recommended' and 'desirable', which are indicated according to the dust risk level.
- 7 Desirable measures are identified below and will be implemented where it is practicable to do so. The remaining highly recommended measures will be implemented during the construction of the onshore AyM works.

#### Communications

- ▲ Develop and implement a stakeholder communications plan that includes community engagement before work commences on site (an outline construction communications plan is provided as Appendix 12 (application ref: 8.13.12) of the outline CoCP).
- ▲ Display contact details for the reporting of air quality and dust issues arising from the construction works area..
- ▲ Display the head or regional office contact information.

## 2.1.1 Dust Management

- 8 The final version of this AQMP will be developed to include dust management measures and submitted for approval by Denbighshire County Council (DCC) prior to implementation. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site.

### Site Management

- ▲ Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- ▲ Make the complaints log available to DCC when asked.
- ▲ Record any exceptional incidents that cause dust and/or air emissions, either on-site or off-site, and the action taken to resolve the situation in the log book.
- ▲ Hold regular liaison meetings with other high risk construction sites within 500 m of the construction works area, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport deliveries which might be using the same strategic road network routes.

### Monitoring

- ▲ Carry out regular site inspections by the contractor to monitor compliance with the DMP, record inspection results, and make inspection log available to DCC when asked.
- ▲ Increase the frequency of site inspections by the organisation accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- ▲ Agree dust deposition, dust flux, or real-time Particulate Matter where particles are less than 10 micrometres in diameter (PM<sub>10</sub>) continuous monitoring locations with DCC, where appropriate. Where possible commence baseline monitoring before work commences onsite or before work on a phase commences. Further guidance is provided by the IAQM on monitoring during demolition, earthworks and construction (IAQM, 2018).

- ▲ Undertake regular on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to DCC when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of construction works area, with cleaning to be provided if necessary.

## Preparing and maintaining the site

- ▲ Plan site layout (layout of the works taking place on site) so that machinery and dust causing activities are located away from receptors, as far as is possible.
- ▲ Erect solid screens or barriers around dusty activities or the construction works area that are at least as high as any stockpiles on site (where practical and appropriate).
- ▲ Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period, where appropriate.
- ▲ Avoid site runoff of water or mud.
- ▲ Keep site fencing, barriers and scaffolding clean using wet methods.
- ▲ Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- ▲ Where soil is to be stored for over 6 months it will be covered to minimise erosion or allowed to re-vegetate naturally.



## Operating Vehicles/Machinery and Sustainable Travel

- ▲ Ensure the vehicle fleet for construction activities are of low emission category where possible.
- ▲ Ensure all vehicles switch off engines when stationary - no idling vehicles.
- ▲ Avoid the use of diesel or petrol powered generators where possible and use mains electricity or battery powered equipment where practicable.
- ▲ Produce a construction logistics plan to manage the sustainable delivery of goods and materials.
- ▲ Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, in accordance with the Construction Method Statement (CMS) (an outline version of which is provided in Appendix 2 to the outline CoCP (application ref: 8.13.2) and with the agreement of DCC , where appropriate).
- ▲ Implement a travel plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). An outline Travel Plan is provided as Appendix 9 to the CoCP (application ref 8.13.9).

## Operations

- ▲ Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- ▲ Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- ▲ Use enclosed chutes and conveyors and covered skips.
- ▲ Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- ▲ Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

## Waste Management

- ▲ No bonfires or burning of waste material.

## Specific to Earthworks

- ▲ (Desirable) – If required, re-vegetate earthworks and stored soil if stored for more than 6 months to stabilise surfaces as soon as practicable.
- ▲ (Desirable) - Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover stored soil with topsoil, as soon as practicable.
- ▲ (Desirable) – When covered, only remove the cover in small areas during work and not all at once.

## Specific to Construction

- ▲ Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- ▲ Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- ▲ For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.
- ▲ Avoid scabbling (roughening of concrete surfaces) if possible.

## Specific to Trackout

- ▲ Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- ▲ Avoid any dry sweeping of large areas.
- ▲ Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- ▲ Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- ▲ Record all inspections of haul routes and any subsequent action in a site log book that can be made available for DCC to review.

- ▲ Install hard surfaced haul route, where possible, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers, where required, and regularly cleaned.
- ▲ Implement a wheel washing system, or alternative measures to minimise the transfer of detritus onto the highway, with rumble grids to dislodge accumulated dust and mud prior to leaving the site (where reasonably practicable).
- ▲ Ensure there is an adequate area of hard surfaced road between the wheel wash facility, where used, and the site exit, wherever site size and layout permits and vehicle usage requires.
- ▲ Access gates to be located at least 10m from receptors where possible with a site specific assessment undertaken where receptors are within 10m of an access point and location of the access out with 10m is not possible.

## 2.2 Decommissioning Phase Mitigation

### Overview

- 9 A decommissioning plan will be submitted in advance of the decommissioning phase, and mitigation applied as necessary and required.
- 10 The likely measures employed are as follows.
  - ▲ Soft strip inside of buildings before demolition.
  - ▲ Ensure effective water suppression is used during demolition operation.
  - ▲ Ensure the vehicle fleet for decommissioning activities are of low emission category where possible.
  - ▲ Avoid explosive blasting, using appropriate manual or mechanical alternatives.
  - ▲ Bag and remove any biological debris or damp down such material before demolition.

## 3 Implementation and Management

- 11 A specified person shall be responsible for the control of environmental impacts of construction activities. It is anticipated that the nominated person will be the site manager or similar. The responsible person shall be briefed and trained appropriately.
- 12 As part of the air quality management regime, the responsible person will keep a site logbook documenting the maintenance of effective emissions control methods and details of any complaints or incidents, and actions taken.
- 13 The responsible person shall liaise regularly with DCC.
- 14 Emissions control procedures and equipment will only work satisfactorily if carried out or used appropriately. The responsible person shall maintain good housekeeping and ensure that all equipment is well maintained and used appropriately.
- 15 It is important that all site personnel are aware of the requirement for the control of environmental impacts, and appropriate training shall be given to all site personnel, covering:
  - ▲ Health and environmental impacts of emissions to air;
  - ▲ The benefits of controlling emissions to air;
  - ▲ Emission control measures;
  - ▲ Method statements; and,
  - ▲ Importance of good communication.

## 4 References

IAQM (2014) Guidance on the assessment of dust from demolition and construction



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