MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Outline Construction Artificial Light Management Emissions Plan

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Morgan Offshore Wind Limited,
Morecambe Offshore Windfarm Ltd

Contents

Glossary

Term	Meaning
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Code of Construction Practice	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Export cable corridor	The specific corridor of seabed (seaward of Mean High Water Springs and land (landward of Mean High Water Springs) from the Generation Assets to the National Grid Penwortham substation.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Impact	Change that is caused by an action/proposed development, e.g., land clearing (action) during construction which results in habitat loss (impact).
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bays inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.

Term	Meaning
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.
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).
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
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.
Onshore Order Limits	The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds). Also referred to in this report as the Onshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
BS	British Standard
CoCP	Code of Construction Practice
DCO	Development Consent Order
HSE	Health and Safety Executive
MLWS	Mean Low Water Springs
MHWS	Mean High Water Springs

1 Outline Construction Artificial Light Emissions Management Plan

1.1 Background

1.1.1 Introduction

1.1.1.1 This document forms the Outline Construction Artificial Light Emissions Management 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 Construction Artificial Light Emissions Management 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 Construction Artificial Light Emissions Management Plans will be prepared as 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 Construction Artificial Light Emissions Management Plan. The detailed Construction Artificial Light Emissions Management Plan(s) 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 Construction Artificial Light Emissions Management Plan(s).

1.2.1.2 The Applicants have committed to implementation of detailed Construction Artificial Light Emissions Management Plan(s) via the following commitment, CoT28 (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…

(k) Construction Artificial Light Emissions Management Plan (in accordance with the outline Construction Artificial Light Emissions Management 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 Roles and responsibilities

1.3.1 Overview

1.3.1.1 The key roles and associated responsibilities with regard to this Outline Construction Artificial Light Emissions Management Plan are set out within the Outline CoCP (document reference J1). The Construction (Design and Management) Regulations 2015 also identify the legal duties, responsibilities and obligations of all the major roles within the construction team.

1.3.1.2 The responsibilities of each role will be refined as necessary in the detailed Construction Artificial Light Emissions Management Plans.

1.4 Construction lighting requirements

1.4.1 Locations

1.4.1.1 The majority of construction activities for the Transmission Assets will be undertaken under natural light conditions where reasonably practicable. However, where there is insufficient natural light for construction to continue safely and effectively, or where night-time working is required, construction lighting may be required.

1.4.1.2 With reference to Volume 1, Chapter 3: Project description of the ES (document reference F1.3), instances where construction lighting may be required are.

- During cable landing and cable pull-in activities at the landfall as there may be a requirement to undertake these activities outside of core working hours to make use of the available tidal windows and to ensure the cable is protected at all times prior to burial and re-instatement.
- Other instances where night-time working may be required would relate to specific activities (e.g., duct/ tunnel/ sheath installation and cable pull-ins) at specific locations of the onshore and landfall route, i.e., where there may be more constraints, such as challenging ground conditions or

working conditions). Night-time working would not be employed for routine construction activities.

- Night-time working could apply to other specific activities such as for the maintenance of dewatering pumps; activities related to the completion of concrete works at the onshore substations; or at specific locations, such as works associated with Blackpool Airport and the River Ribble crossing. Vehicle movements may therefore also be subject to unscheduled events outside of these core working hours. Advance notice of such works will be given to the relevant planning authority.
- Task lighting may also be required during working hours in the winter months.
- During emergency works.

1.4.2 Design principles

1.4.2.1 The design of lighting required to support the construction of the Transmission Assets will be in accordance with the following regulations, standards and guidance documents:

- Institution of Lighting Professionals. (2021). Guidance Note 1 for the reduction of obtrusive light 2021;
- Building Construction (2020) Building Construction Handbook 12th edition;
- Health and Safety Executive (HSE) (2015) Managing health and safety in construction HSE L153;
- Ministry of Housing, Communities & Local Government (2014). Light pollution. GOV.UK;
- British Standard BS EN 12464-2:2014 Light and lighting. Lighting of workplaces. Outdoor workplaces;
- BCT and ILP Bats and Artificial Lighting at Night (2023).
- Society of Light and Lighting (2012) Code of Lighting; and
- HSE (2006) Health and safety in construction 3rd edition HSG150.

1.4.2.2 Lighting will be designed and positioned to:

- provide the necessary levels for safe working;
- minimise light spillage or pollution;
- minimise disturbance to adjoining residents or occupiers; and
- avoid impacts on retained ecological habitats and species (especially bats, otter holts and badger setts). Where possible, works in the vicinity of bat roosts will be completed during daylight hours only. However, should construction lighting be required, lighting will follow guidance (BCT and ILP, 2023) and light fixtures will be directed away from the roost (refer to the Outline Ecological Management Plan (document reference J6).

1.4.2.3 Where used, appropriate task lighting will be used to direct light towards the working areas during the night-time or during low light conditions. Any task lighting would be positioned at low levels on towers around the specific construction areas and directed to most frequently used areas of work to provide the necessary levels for safe working and avoid causing glare or annoyance to sensitive receptors.

1.4.2.4 Surface mounted lighting arrangements may provide lighting for perimeter fencing, walkways and circulation areas at the construction compounds. Where these may be used luminaires will direct the lighting downward (and avoid tilting) and limit the lighting to within the intended area.

1.4.2.5 Lighting that may be close to sensitive ecological and human receptors will take into account the following:

- light intensity will be in accordance with The Construction (Design and Management) Regulations 2015 requirements; and
- light spills towards any retained linear features will be reduced to a minimum (using cowls as necessary).

1.4.2.6 Where practicable, power to temporary lighting will be taken from mains supplies rather than from portable generators. Where portable generators are used, industry best practice will be followed to minimise noise and pollution from generators (in accordance with the Outline Construction Noise and Vibration Management Plan (document reference J1.3).

1.4.2.7 The principal contractor(s) will be responsible for ensuring regular inspections of lighting mitigation measures. If non-conformity with any control or mitigation measure is identified, it will be recorded and appropriate remedial action will be undertaken and implemented where necessary (e.g., re-directing the lighting or re-positioning of the shielding).

1.5 References

BCT and ILP (2023) Bats and Artificial Lighting at Night. Available at: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ Accessed: September 2024

Building Construction (2020) Building Construction Handbook 12th edition

British Standard BS EN 12464-2:2014 Light and lighting. Lighting of workplaces. Outdoor workplaces

Health and Safety Executive (HSE) (2006) Health and safety in construction, 3rd edition HSG150

Health and Safety Executive (HSE) (2015) Managing health and safety in construction HSE L153

Institution of Lighting Professionals. (2021). Guidance Note 1 for the reduction of obtrusive light 2021. Available at: https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2021/ Accessed: September 2024

Ministry of Housing, Communities & Local Government (2014). Light pollution. [online] GOV.UK. Available at: https://www.gov.uk/guidance/light-pollution Accessed: September 2024

Society of Light and Lighting (2012) Code of Lighting