

Outer Dowsing Offshore Wind

Outline Documents

8.11 Outline Operational Artificial Light Emissions Management Plan

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Reference Documentation

Document Number	Title
3.1	Draft Development Consent Order
8.1	Outline Code of Construction Practice
8.18	Design Approach Document
8.19	Design Principles Statement

Acronyms & Definitions

Abbreviations / Acronyms

Abbreviation / Acronym	Description
CoCP	Code of Construction Practice
DCO	Development Consent Order
DAD	Design Approach Document
DPS	Design Principles Statement
OnSS	Onshore Substation

Terminology

Term	Definition
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the sensitivity of the receptor, in accordance with defined significance criteria.
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.
Mitigation	Mitigation measures are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.
Onshore substation (OnSS)	The Project's onshore HVAC substation, containing electrical equipment, control buildings, lightning protection masts, communications masts, access, fencing and other associated equipment, structures or buildings; to enable connection to the National Grid
The Project	Outer Dowsing Offshore Wind, an offshore wind generating station together with associated onshore and offshore infrastructure.
Receptor	A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of receptors include species (or groups) of animals or plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.

1 Operational Artificial Light Emissions Management Plan

1.1 Overview

1. The Operational Artificial Light Emissions Management Plan will be finalised post consent in line with this outline Operational Artificial Light Emissions Management Plan (the plan). This plan outlines the measures that will be incorporated into the final plan, that will be prepared prior to operation of the onshore substation (OnSS) and submitted for approval in accordance with the relevant DCO requirement.
2. This Plan provides details of operational OnSS lighting, lighting during dark hours and emergency lighting management measures.
3. Details of artificial light emissions management measures associated with the construction phase of the Project are included within the outline Code of Construction Practice (CoCP) (document reference 8.1).

1.2 Operational Light Emissions Management

4. Operational lighting will be required as standard at the OnSS and may be required for maintenance purposes elsewhere in the event of emergency works. Regular maintenance will be planned for daylight hours where possible, to reduce the need for artificial lighting, however in winter months and in the event of emergency works additional lighting may be required to meet health and safety requirements.

1.2.1 Onshore Substation Lighting

5. BS EN 12464-2 specifies requirements for lighting of tasks in most outdoor work places and their associated areas in terms of quantity and quality of illumination. In addition, recommendations are given for good lighting practice.
6. The design of the OnSS will include fixed lighting and information regarding substation lighting can be found in the Onshore Design Principles Statement (DPS) (document reference 8.19). The DPS was informed by the Design Approach Document (document reference 8.18). The OnSS design details require to be submitted for approval in advance of construction, in accordance with the detailed onshore design parameters DCO requirement, and the details must accord with the Onshore DPS.
7. The final Operational Artificial Light Emissions Management Plan will provide detail on the mitigation measures to be taken to manage emissions from artificial light in accordance with Bats and Lighting in the UK guidance (Bat Conservation Trust, 2018), such as the use of directional beams, non-reflective surfaces and barriers and screens, to avoid light nuisance whilst maintaining safety and security obligations. The plan will also consider the guidance from the Institute of Lighting Professionals (2021) in situations where this is relevant.

8. Substation lighting including motion activated security lighting will be positioned and directed to minimise nuisance to footpath users and residents, to minimise distractions to passing drivers on adjoining public highways and to minimise skyglow, so far as reasonably practicable. Lighting spillage will also be minimised where possible, to avoid or reduce impacts or effects on receptors including ecological resources and nocturnal species.

1.2.2 Dark Hours Lighting

9. OnSS lighting may be required during regular working hours (for example during winter months) and a lower level of lighting would remain overnight for security purposes, which would be motion activated unless required for maintenance during regular working hours during winter periods. Where dark hours lighting is required, the lighting will be designed to minimise light spillage as far as possible, while providing the necessary levels of light for safety requirements.

1.2.3 Emergency Lighting

10. In the event of emergency maintenance or works at the substation, additional lighting may be used to ensure compliance with site health and safety regulations.
11. BS 5266 relates to the design of emergency lighting and specifies minimum lighting levels however, the nature and infrequent use of emergency lighting is not anticipated to pose issues according to the Bat Conservation Trust (2018).

References

Bat Conservation Trust (2018). Bats and artificial lighting in the UK. Bats and the Built Environment series Bats and Lighting in the UK guidance. Guidance Note 08/18. Available online:

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British Standards Institution (2011). *BS5266-1: Emergency Lighting*. Available online:

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